The Lumleian Lectures

ON

THE PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART.

Delivered before the Royal College of Physicians of London on March 24th, 29th, and 31st, 1898,

BY SIR RICHARD DOUGLAS POWELL, BART., M.D. LOND,

FELLOW OF THE COLLEGE; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; AND PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE III.[1]

Delivered on March 31st.

MR. PRESIDENT AND FELLOWS,—The treatment of acute heart failure may perhaps be best referred to in connexion with that acute disease in which it is frequently met and of which it too often forms the fatal turning point—viz., pneumonia, in which disease the invalidating conditions affecting the heart are (1) stress of labour; (2) blood-supply and nutrition impoverished and vitiated; and (3) innervation, excited and debilitated by the effects of shock and pyrexia. How are we to meet, and it may be to anticipate, heart failure under these circumstances? This is really the kernel of the problem before the physician in every case of severe pneumonia. All rational treatment of the early stages of pneumonia tends to lessen the blood-pressure in the lungs. It is in the latter stages, towards the crisis, when the lungs are most extensively consolidated, when the nervous excitement of early pyrexia is yielding to exhaustion, and when the blood aeration is most defective, that acute heart failure is apt to supervene. A running pulse, irregular from loss of vagus control, is the first symptom, soon to be followed by œdema of the unconsolidated portions of the lungs frothing up through the bronchial tract to produce that ominous tracheal rattle with which we are too familiar; these are the signs of heart failure threatening life. There can be little doubt that an exhausted nerve centre is at the root of most of the cases of cardiac failure rather than mere overstrain from impeded pulmonary circulation and there are two symptoms which especially tend to heart failure and are largely instrumental in causing the nerve exhaustion which brings it about—viz., a temperature above 104° F. and sleeplessness. It will be generally noted that the failure comes on suddenly; there may have been one or two preliminary warnings of partial collapse with running pulse and cold extremities from which the patient may rally but which are generally followed by more severe and often fatal attacks. At the very commencement of such signs ammonia, which my experience would lead me to infer after a few days of usefulness tends rather to produce cardiac depression, should be changed for a mineral acid of which dilute phosphoric acid is the best. Some digitalis or strophanthus should be added to the mixture and strychnine should be given separately either in an extra quantity of stimulant or subcutaneously if the absorbing powers of the patient are at all doubtful. But the most powerful remedial agent is oxygen, since it attacks one of the chief causes of cardiac failure by securing a supply of oxygenated blood to the coronary vessels and the pulse will be observed to become slower and fuller under its influence. It should be at hand in all severe cases and should be given in good time as an occasional inhalation. Whilst as a rule we need not in pneumonia attach much importance to a high temperature, in any case where heart failure threatens it must be reduced to a safer level—i.e., by a degree or two—by hot or cold sponging or, if necessary, by the dripping cold pack. Another question presses at about this time; it is that of sleep. Most cases of pneumonia get frequent short snatches of "dog sleep," which is all that we can expect and serves to tide them on to the crisis; but who has not witnessed that wide-eyed delirious vigil in pneumonia, and especially in influenzal pneumonia, in which the mind is painfully alert and the senses preternaturally acute, sleep being entirely absent? I am in the habit of suggesting help for wakefulness in pneumonia in the form of a small dose of 10 gr. or 20 gr. of sulphonal taken in hot fluid at 8 or 9 P.M., and with this preliminary a 20 gr. dose of bromide taken at 10.30 is often sufficient to secure some restful sleep. When the temperature is high a single dose of from 7 to 10 gr. of phenacetin may be added to the bromide. When delirium is a marked feature hyoscin in doses of $\frac{1}{100}$ gr. subcutaneously and repeated once or twice may be used sometimes with great advantage. Cases of persistent sleeplessness almost invariably prove fatal with heart failure, a running pulse, the cardiac action becoming at last merely peristaltic as the blood-clot accumulates in the auricles. Bromides, chloral, sulphonal, are almost useless and with the gathering serum in the tubes one hesitates to give opiates. And yet I believe that in these severe cases morphia should be given to secure a few hours' sleep and to give the nervous system time to recuperate and to allow of some restoration of heart power before it is too late. I have seen some cases in which death has appeared to be averted by (1) a strong dose of food and stimulant; (2) $\frac{1}{4}$ gr. morphia with atropine; and (3) aeration being maintained by the oxygen current being frequently played over the mouth and nostrils for a few minutes at a time. The oxygen may be warmed as it enters the bag by passing it through a coil of tubing immersed in hot water. It has seemed to me that strychnine has rather favoured this peculiar sleeplessness of patients when utterly exhausted, but its power as a cardiac stimulant is unrivalled and its use in cases severe enough to lead up to this condition is quite essential and it may be renewed on the effects of morphia passing.

The remarks I have just made are applicable to heart failure in pneumonia and I have endeavoured to indicate the measures that tend to avert it and to combat it when present. I have not dealt with the treatment of pneumonia in any other sense, for to treat the vast majority of cases of pneumonia with alcohol, strychnine, oxygen, morphia and the like would be at best like storming a mud hut with Armstrong guns; to use dangerous remedies in cases which require only the gentlest treatment and careful nursing is a great blunder. The fatigue of heart that follows such tempestuous periods is sometimes very great. It is partly nerve fatigue and is associated with an often greatly depressed temperature lasting for many days. It is in part also muscular fatigue. The pulse either remains quick and very soft or it may become very slow and vacillating. Patients should always remain in bed until the temperature, which after the crisis frequently descends considerably below the normal, has had at least a sufficient interval to return to or near the normal range, and cardiac and nerve tonics such as strychnine, caffein, and the hypophosphites will prove valuable on convalescence. Exercise in these cases must be cautiously resumed, keeping well within the limits of fatigue until heart power is quite restored. Acute heart failure in other diseases and from other causes requires a similar handling, varied to meet varieties in the case. Time will not permit me to allude to them further. I should like, however, to draw attention to the great value of oxygen inhalations in the treatment of heart failure in old people due to fatty degeneration of the organ. In these cases, which are characterised by the usual signs of a rather large and feebly acting heart, together with irregularity of rhythm, there being perhaps twenty or thirty beats fairly reaching the wrist, whilst amongst them are twice as many beats which only very imperfectly do so. Cheyne-Stokes breathing is another remarkable symptom in these cases which is especially apt to supervene after any fatigue and to come on during sleep. This form of breathing bears no direct relationship to the pulse and is probably an associated degenerative neurosis. The employment of oxygen inhalations several times in the twenty-four hours has a decidedly strengthening influence upon the heart, no doubt by sending some extra-oxygenated blood through the coronary arteries, and it also lessens the Cheyne-Stokes breathing and refreshes the patient. Strychnia is the most useful cardiac stimulant in these cases.

Coming to that large class of sub-acute or chronic heart failure dependent upon degeneration or other changes in the heart wall, we find them separable for the purposes of treatment into those in which the impairment is temporary and remediable, as from (1) anæmia; (2) fatty infiltration; and

[1] Lectures I. and II. were published in THE LANCET of March 26th and April 2nd, 1898, respectively.

(3) over-strain; and into those in which it is permanent as in (1) fatty or fibro-fatty change from coronary disease; (2) chronic fibroid change from other causes, syphilis, alcoholism or associated with chronic high arterial pressure in gout, renal disease, &c.; and (3) senile changes. In anæmia the atonic and badly nourished heart frequently yields before the blood-pressure, is slightly enlarged, irritable in function, and besides the usual hæmic bruits presents a murmur at the mitral area. Such cases are frequent in hospital practice and it may be said that the routine treatment of cases of chlorosis bad enough to come into hospital is a fortnight's rest in bed with the necessary laxatives and ferruginous tonics and further treatment at a convalescent hospital.

The heart is capable of being severely taxed, provided it be a healthy organ in a fairly young subject, without being overstrained, the difference being that between functional fatigues and actual damage to valve or muscular wall. Of course too frequently repeated over-taxation will cause permanent enlargement with some change in the muscular texture not only of the heart but also of the vessels. It is, however, prolonged taxation of the heart extending over the period of fatigue that is very apt to cause changes of a more or less permanent kind which constitutes over-strain. The irritable heart of soldiers described by Da Costa, the forms of heart disease found so frequently in lightermen and professional athletes, are of this source. It is extremely important that in young people undergoing active growth and development sports should be so arranged as not habitually to tax the heart and circulation beyond the period of fatigue, the point to be remembered being that young people can do almost anything in short spells or spurts with rest between, but their hearts will not bear with advantage prolonged and fatiguing exertion, the reason being that nutrition changes of waste and restoration are quick and cardiac innervation excitable. In full-grown adult life great exertion can be more prolonged and as life advances the heart is much more liable to damage from quick spurts of effort than from prolonged and steady exertion. In my belief with perhaps the single exception that in some cases long runs and paper-chases are not sufficiently supervised with regard to the varied ages and physique of the boys the usual public school sports are admirably adapted for them. I would here make an observation which is probably in accord with the experience of others, although I have not seen it alluded to—viz., that in young people, especially boys between seven and twelve years of age, it is common to find the heart relatively large, the apex beat slightly outside the normal, the impulse of the left ventricle relatively strong. I believe this condition to be by no means abnormal and that it is attributable to the restless activity of early youth and to the cardiac development being somewhat ahead of the pulmonary. It would be an error to regard it as morbid. As an instance of what I mean by over-taxation of the heart in young people which would lead to over-strain I may quote the following case. I was a short time ago consulted about a fine, high-spirited little lad, aged fourteen years, well-built, full of courage, and who had been a successful competitor in most school sports. These had probably done him no harm. But in the holidays he was allowed to associate in sports with older people. He would do bicycle races with his elder brothers; he would go out for whole long autumn days shooting with grown-up sportsmen; in fact, he pursued to extreme fatigue sports for which he was unfitted, and the result was a degree of hypertrophy and dilatation of the heart which caused him to be refused for the public service and he was then brought to me for an opinion.

My own limited experience of those who have overdone it in training is that they become anæmic, that their cardiac innervation suffers and that the ventricles yield from impairment of muscular nutrition. An anæmic condition of such patients and an occasional hesitation in the cardiac rhythm are the earliest phenomena. The treatment of an overtaxed heart and the lighter degrees of overstrain is simply a short period of complete rest followed by steady but carefully graduated exercise, calculated to maintain cardiac and general muscular circulation and nutrition without exciting the heart's action or increasing the blood-pressure. I think special heart exercises are better avoided; we do not want to make heart "crocks" of our young people. Children have great powers for complete recovery in their rapid renewal of tissue. Overstrain of unsound hearts is, of course a matter of daily experience and is the immediate cause which brings such cases under observation. Its treatment is involved in that of the heart disease upon which it supervenes.

ULCERATIVE ENDOCARDITIS.

The significance of infective endocarditis was, as is well known, first recognised by the late Dr. Senhouse Kirkes in 1853. He was followed by Virchow, and you yourself, Sir, in the pages of that mine of pathological wealth, the Guy's Hospital Reports,[2] were amongst the pioneers of modern clinical medicine who recognised the essential characters of the disease. Its pathology will be broadly covered for our present purpose by saying that it is a disease most commonly (61 cases out of 69, Coupland) supervening upon valve changes the result of former endocarditis, that it is produced by the lodgment and local cultivation of microbes, and that its secondary results are occasioned by the toxins yielded to the blood by such organisms and by the detachment of microbe bearing fibrinous emboli occluding vessels in various organs and parts. That the organisms regarded as capable of setting up infective endocarditis are of more than one kind,[3] but that streptococci and staphylococci pyogenes are the most frequently found, pneumococci next in frequency, gonococci and others occasionally met with. It is stated that in some cases organisms have been found peculiar to the lesions. The disease is frequently started from infection through septic surfaces or centres, endometritis, otitis, gonorrhœa, intestinal or faucial sloughings, &c. In other and a numerous class of cases the disease arises without any intermediate illness from exposure to sewer-gas emanations, but in the latter cases in my experience it has almost always happened that previous valve lesions from former endocarditis have existed.

The facts which stand salient with regard to infective endocarditis are the frequent concomitance on previous valve defect and exposure to sewer gas emanations of septic absorption, and these factors will be found to underlie and initiate the whole pathology of the disease in the vast majority of instances. They are in my belief the objectives of our prophylactic and therapeutic treatment. A due recognition of these facts will add to the care with which on sending a patient convalescent from rheumatic fever with endocarditis to a seaside or country resort we should satisfy ourselves as to the sanitary condition of the house to be occupied. Obviously the first inquiry in any case presenting symptoms suggesting infective endocarditis is into his sanitary surroundings and into every possible source of autogenetic infection, such as otitis, chronic gleet, pelvic abscess, and the like, and to at once deal with any such defect. The next point which strikes the clinical observer is the fact that with a mild remittent fever there are associated more or less periodical outbreaks of high temperature with great fluctuations of from a few hours' to two or three days' duration.

A gentleman, a former member of our profession, recently remarked on a public occasion that apart from surgical measures the only function left to the healing art was of a prophylactic kind. I can only trust that when that gentleman's time shall come to be smitten with illness it will be of a kind accessible to surgery. He might, indeed, point in justification of his satire upon those who have to deal with the more occult phenomena of disease to the position which therapeutics stand with regard to infective endocarditis at the present moment. We can often prevent this appalling malady; we may sometimes nip in the bud by prophylactic measures its dire development. What can we do in its treatment? Of drugs arsenic is the only one under a course of which I have seen this disease get well. I do not remember to have seen any appreciable result from quinine, sulphocarbolates, guaiacol, mercury, or other remedies of the antiperiodic or antiseptic class. But in the face of the dreadful mortality of at least 80 per cent. of the cases that prevails arsenical treatment must promptly be abandoned for any more promising remedy. And looking to the pathology of the disease it would seem that in the modern development of serum therapeutics there is most to be hoped for in its future treatment.

It is hazardous to trust the reports of any new method of treatment until a sufficient time has elapsed for the favourable cases which have brought it into vogue to be duly apportioned to those in which it has failed. There have been recently reported four cases treated by the anti-streptococcus serum with the very encouraging result of three

[2] Guy's Hospital Reports, 1870, vol. xv., p. 33.

[3] Dr. Dreschfeld (Allbutt's System of Medicine, vol. i., p. 629 enumerates twelve kinds of organisms as having been found

SERUM TREATMENT OF ULCERATIVE ENDOCARDITIS.

No.	Observer.	Sex.	Age.	Duration of illness before first injection.	Leading symptoms.	Date of commencement of injections.	Dose.	Number of injections.	Result.
1	Dr. Harrington Sainsbury.	M.	13 years.	72 days.	Cough, streaks of blood, and clot sputum; temperature 104·4° F. Enlarged heart; double murmur at the apex; dulness at both bases + left. Streptococci in the blood; erythematous rash.	Aug. 17th, 1896.	20 c.c. first; 10 c.c. subsequently.	6	Recovery; normal temperature, Sept. 2nd, 1896.
2	Dr. A. E. W. Fox.	M.	36 years.	19 days.	Muddy complexion and slight jaundice; temperature 104·6° F. Heart: first sound reduplicated, ending in slight whiff; soft systolic murmur in pulmonary and aortic areas; emboli in certain vessels.	Nov. 19th, 1896.	10 c.c. (10 c.c. twice a day 23rd to 29th). Injections again Dec. 1st.	15	Died (Dec. 2nd, 1896). Verified by post-mortem examination.
3	Dr. Margaret Pearse.	F.	16 years.	48 days.	Dyspnœa and palpitation; temperature from 101° to 103° F. (once 105°); pulse 116; rheumatic pains in the shoulder. Heart enlarged; mitral systolic; double aortic; fluid in the pericardium (pericarditis) and right pleura. Spleen enlarged and tender.	Dec. 24th, 1896.	2½ to 20 c.c.	8	Recovery; normal temperature, Jan. 11th, 1897.
4	Dr. J. A. Washbourn.	F.	21 years.	61 days.	Pale and thin; rigors; perspirations; pain in the joints; diastolic bruit left side of the sternum.	March 24th, 1897.	20 c.c. until last 2 weeks when gradually diminished.	60	Recovery normal temperature, May 6th, 1897.
5	Dr. J. F. Goodhart.	M.	18 years.	78 days.	Pale, anæmic; dyspnœa; giddy; faint; pain over the heart; temperature from 100° to 101° F., intermittent; old cardiac disease known to exist; systolic bruit all over precordia, but especially the aortic area; the spleen was enlarged; trace of albumin and sometimes blood in the urine.	Nov. 26th, 1897.	20 c.c. (4 times), 10 c.c. once.	5	Failure.
6	Dr. Percy Kidd.	F.	19 years.	—	Anæmia; remittent pyrexia; temperature from 103° to 99° F.; enlarged and tender spleen and liver; albuminuria; retinal hæmorrhages; petechiæ; hypertrophy and dilatation of the left ventricle; aortic stenosis; bronchitis.	—	5 to 20 c.c., 420 c.c. in all.	23	Death (confirmed by post-mortem examination).
7	Dr. Percy Kidd.	F.	30 years.	About 3 months.	Rheumatoid pains; pyrexia moderate and of remittent type; tender enlargement of the spleen and liver. Heart: hypertrophy and dilatation of the right and left side; mitral stenosis and incompetence.	—	5 c.c. to 25 c.c.	9 in first 5 days; omitted for 2 months; then 3 or 4 more.	Death.
8	Dr. A. E. Sansom.	M.	39 years.	About 10 days (5 in hospital).	Irregular characteristic temperature; infarction of the spleen and kidney.	—	10 c.c. 6th and 7th days.	2	Death (confirmed by post-mortem examination).
9	Dr. J. F. Goodhart with Mr. C. Christopherson.	—	—	—	Very pronounced case with cerebral embolism.	—	10 c.c.	4	Failure.
10	Dr. Stephen Mackenzie.	M.	25 years.	15 weeks.	Pyæmic abscesses; temperature; rigors; systolic murmurs at the apex and base.	—	10 c.c.	21 in 11 days.	Died (confirmed by post-mortem examination).
11	Dr. W. P. Reynolds and Dr. J. Young with Dr. J. F. Goodhart.	M.	45 years.	85 days.	Wasting; profuse sweating; evening rise and morning fall of temperature; soft systolic bruit at the apex; pain in the cardiac region.	Dec. 14th, 1896.	10 c.c.	3	Died (verified by post-mortem examination).
12	Dr. M. Prickett with Sir Richard Douglas-Powell.	M.	—	145 days.	Irregular pyrexia extending over more than 5 months' progressive anæmia; endocardial murmur; repeated attacks of vomiting; dropsy towards final stages of illness.	Aug. 4th, 1897.	—	11	Died.

recoveries. It must not be concluded, however, that this represents anything like a just account of the results of the treatment. A considerable and as yet unpublished experience at the various large hospitals and in private has already gone far to moderate enthusiasm for this method of treatment. I have here a table of all the cases that have come within my personal knowledge through inquiry amongst my friends and at some of the principal London hospitals. They are 12 in number, which include the 3 successful cases already published, 7 deaths and 2 in which no favourable result has ensued. We must allow for the fact that in some of these cases the anti-streptococcus serum has, from a natural hesitancy with regard to its efficiency and some timidity of possible risks in its employment, been only employed in later and almost hopeless stages of the disease when already large embolic detachments have set up centres of cultivation in many positions, so that the above table need not be regarded as so discouraging as would at first appear. It may be laid down as a principle governing treatment by this particular serum that the more distinct the history of a previous endocardial lesion and a subsequent exposure to infection through a suppurative medium or a sewer gas sepsis the more appropriate the case for the treatment. This rule would discourage its employment in cases in which the pneumococcus, gonococcus, or some other microbes divergent in character from the strepto- and staphylo-cocci were concerned, and if with the recognition of this principle and its earlier and bolder carrying out more encouraging results are obtained it will certainly follow that analogous measures will be found for the circumvention of the other forms of microbic action. A further point in the natural history of infective endocarditis is well illustrated in Chart 1—viz., that towards the close of the case when the vital powers are at a low ebb the temperature tends to fall apart from any treatment and the reactions to embolic incidents are much less marked or do not occur at all. It is possible that thus, if the serum be used late in the case, it may have effects attributed to it which should be otherwise accounted for.

I will venture now to allude to a case treated by the subcutaneous use of another material—viz., yeast—which, although it occurred four years ago and struck me very much at the time, it did not seem then advisable to publish, for as it stood it might perhaps equally well illustrate the value of a treatment or the fallacy of drawing any deduction from a single case. I had some months previously seen a case of infective endocarditis of long standing with Sir W. Broadbent in which he had for a time employed yeast given by the mouth with the apparent effect that during the several weeks of the treatment the temperature had preserved a lower although not a normal range; the patient, however, became nauseated and would not continue the remedy and finally died from the disease.

A young man, aged twenty-one years, with slight defect at the aortic valve, lived in a room over an archway which covered a former inlet of the Thames and presented a surface of stagnant Thames mud, sometimes dry, often wetted with surface water from the extended basement of an ancient building. He was given to violent exercises—bicycling, gymnastics, and engineering work—and the presumption is that he overstrained an old-standing valve lesion. On May 15th, 1895, he dined out with a friend and was taken ill with vomiting and faintness in the train going home. He was seen by Mr. Davis, of Dorset-square, on the 16th, when he had a temperature of 102° F., general malaise, and a cardiac murmur of aortic regurgitant character. The temperature continued raised for four days, when I saw him in consultation with Mr. Davis. The heart condition did not seem to account for the temperature and from the first some more general cause was suspected. There were no rheumatic symptoms nor were there any special symptoms of enteric fever. On about the eighth day he had a severe rigor and the temperature, which had been ranging between 102° and 100°, suddenly amounted to 105°, running down again to 100° in a few hours; after fluctuating at the original level for four or five days another rise to 105° would take place with a rigor as before. Sometimes a second rigor would closely follow the first with a corresponding acute rise of temperature. With the rigors there was sometimes sharp pain over the splenic region and the spleen was distinctly enlarged. On June 1st he was removed to a perfectly sanitary nursing home, but the symptoms remained unaltered. Salicylate of soda was at first administered and quinine was then given in 5 gr. doses without result and moderate doses of arsenic were tried, but these drugs did not influence the symptoms. The aortic regurgitant murmur became very marked and a curious, rough, somewhat churning, but mainly systolic murmur was heard over the left auricular region. On July 1st injections of yeast culture (a fairly concentrated cultivation of yeast in saccharine water prepared by Messrs. Burroughs and Wellcome, was employed, from 20 to 30 minims of the yeast being injected into the cellular tissue each second day, and these were steadily continued until September 1st. Sir W. Broadbent joined us in consultation on July 14th, when it was noted "the murmur is most audible to the left of the sternum and is not affected by inspiration but prolonged during expiration." The deep cardiac dulness was increased both upwards and to the right. The systolic rough bruit was much more loud and rough during high pyrexial periods. There were never any signs of renal emboli. Soon after the commencement of the yeast treatment he had acute right pleurisy with some effusion. This began with two or three of the usual rigors in quick succession and upraisings of temperature, but the temperature remained high for a few days. With this interruption the intervals of four days between the rigors which had pretty steadily been observed appeared broken by the yeast injection and prolonged to six or seven days. The temperature became normal, or nearly so, in the intervals and altogether normal about August 14th three months from the commencement of the illness with complete cessation of rigors. The patient went to Brighton on Sept. 1st and rapidly convalesced and has remained active and well since.

In this case the yeast culture was obtained from Messrs. Burroughs and Wellcome. It was an inconvenient and unstable preparation, although it seemed to serve a very good purpose. Dr. De Bacher of Paris seems to have originated the yeast ferment treatment of microbic diseases and it was from a reference (after my observation of Sir W. Broadbent's case) to his experiments[4] with "Backerin," an aseptic preparation of fermentable material containing the yeast fungus, that I was induced to use the yeast preparation subcutaneously. "Backerin" could not be obtained at this time and I have not been able to procure it since. De Bacher[5] explained the efficiency of the yeast fungus in microbic diseases by the cells attracting into their interior and finally killing various microbes and thus helping the germicidal function of the white corpuscles.

I have used yeast subcutaneously in four other cases, in one of the four using it also in the form of dry yeast in 30-gr. doses by the stomach, but I cannot say that any marked result followed. The cases were, it is true, all rather advanced with splenic and other embolisms. One case was a sequel to gonorrhœa, one to suppurative otitis, and the other two of less defined source. Dr. Vaughan,[6] Professor of Hygiene and Physiological Chemistry at Michigan in 1894, advocated the use of solutions of nuclein and nucleinic acid in the treatment of microbic diseases. Dr. Vaughan contrasts the toxin diseases with those in which the phenomena presented are due to more direct microbic action—in the one class there being an acute intoxication of the system by the action of microbes or ferments of very limited life duration, in the other a more continued life and virulence of the organism; and he regards the nucleins as possessing practically no influence as antitoxins whilst being powerful indirect germicides. From experiment he finds the subcutaneous injection of nuclein to increase the number of white corpuscles both in healthy and tuberculous persons, the increase being variable in degree from slight to threefold and principally of the polynuclear cells. This increase is most evident at the fifth hour and disappears after the forty-eighth hour. Dr. Vaughan[7] bases the assumed efficacy of his nuclein treatment of microbic disease upon the observations of Fodon, Nutall, Buchner, and others, showing that the germicidal properties of blood serum depend upon constituents yielded

[4] Journal des Sciences Médicales de Lille, 1893, review of MM. De Bacher's and Bruchet's experiments by Professor Lemière.

[5] Les Ferments Thérapeutiques, Paris, 1896, pp. 73, et seq.

[6] The Nucleinin and Nuclein Therapy, Transactions of the Michigan State Medical Society, Medical News, New York, Feb. 27th, 1897. The Physiological Action and Therapeutic Uses of Yeast, Nucleinin Acid. With especial references to its employment in Tuberculosis. V. C. Vaughan, M.D.

[7] Loc. cit.

CHART 1.

CHART 1.

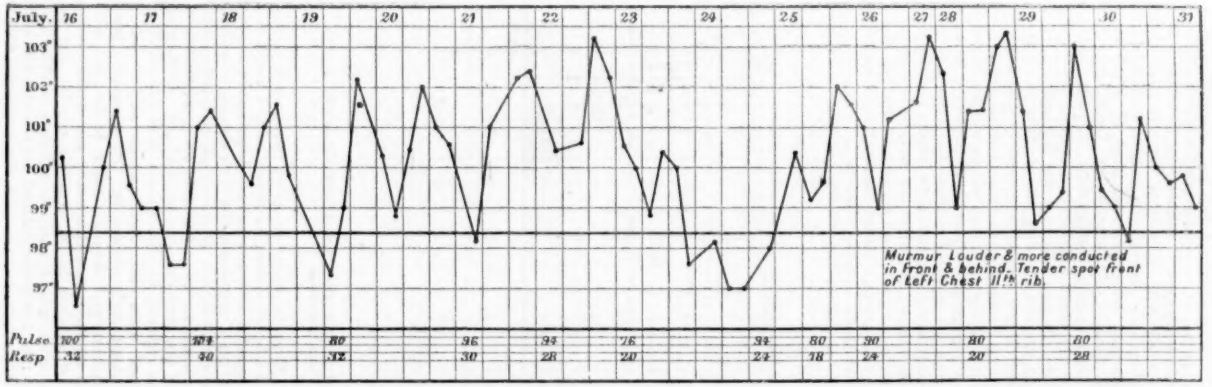
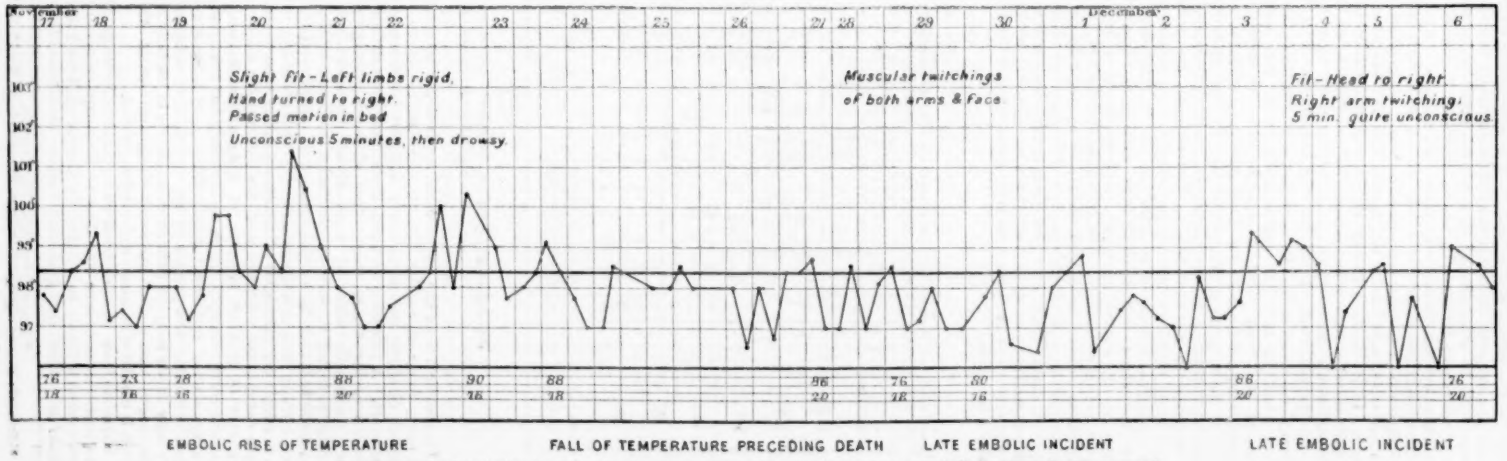


Chart illustrating the temperature of a case of ulcerative endocarditis. Between the dates July 26th and July 30th is a well-marked embolic rise of temperature.

CHART 1—(*continued*).



It will be noticed that after the fall of the temperature preceding death reactions to embolic incidents hardly occurred.

to it by the white, and especially the polynuclear white, corpuscles, arguing that this natural resistance to bacterial disease will be strengthened by a physiological increase of these corpuscles induced by the introduction of the most distinctive constituent of these cells—viz., nuclein.

The dose of the nuclein for subcutaneous use is 20 minims and upwards of a 1 per cent. solution[a] or a teaspoonful of a 5 per cent. solution by the mouth taken between meal-times. It is needless to say that the strictest antiseptic cleanliness with regard to syringes and preparation of the skin surfaces is absolutely necessary in the subcutaneous use of the preparations. I do not for a moment claim to express any opinion as to how far this treatment may prove useful in infective endocarditis. I am not aware that it has been tried except in the treatment of tuberculosis, although it has been advocated both in the form of the original preparations of Dr. De Bacher and as nuclein solutions in the treatment of all microbic affections. It occurred to me that nuclein derived from the young yeast cells may have been the material responsible for the apparent usefulness of yeast in Sir W. Broadbent's and my cases and that it was worthy of trial in cases at all events in which anti-streptococcus serum would not be applicable. The only case of infective endocarditis in which I have used nuclein is one seen by me in consultation with Mr. Christopherson of Hastings, of which I append a chart (Chart 2). The effect appears very striking, the temperature falling to the normal, but after an interval of eighteen days it again rose with what appears to be an embolic incident.

The principal object of massage is to stimulate the arterial circulation in the muscle, to hasten the venous currents, and to promote also the passage of lymph through the lymphatic vessels. The metabolism of the body is maintained and secondary, and therefore primary, digestion improved in those who from any cause are unable to take active exercise. It is at once apparent that we have here a means of helping on the convalescent stage of acute heart affections and of combating the tendency to stagnant circulation in those who are disabled by chronic heart disease. Still more useful is the treatment in maintaining the circulation and mildly but sufficiently stimulating the coronary circulation in those who, bed- or sofa-ridden from any other cause, on that account tend to impairment of heart nutrition and suffer from chilly extremities, feeble pulse, torpid digestion, and passive congestion of the lungs. In regard to acute heart affections, it will be gathered from what has already been said that the treatment is not to be advised. Most cases of acute endocarditis occur in young people whose hearts are not disposed to degeneration and whose muscles, although they become weak, recover with a rapidity and develop an energy which has to be restrained rather than encouraged. The heart is always in exercise, the coronaries are in full function, and whilst there is any activity or softness about the valve lesions our object is in no way to excite the heart to increased action. The thermometer is our guide and so long as there is any daily rise of temperature all such treatment, unless for some very special reason, should be discouraged.

Resistance exercises, now so well known by the name of

CHART 2.

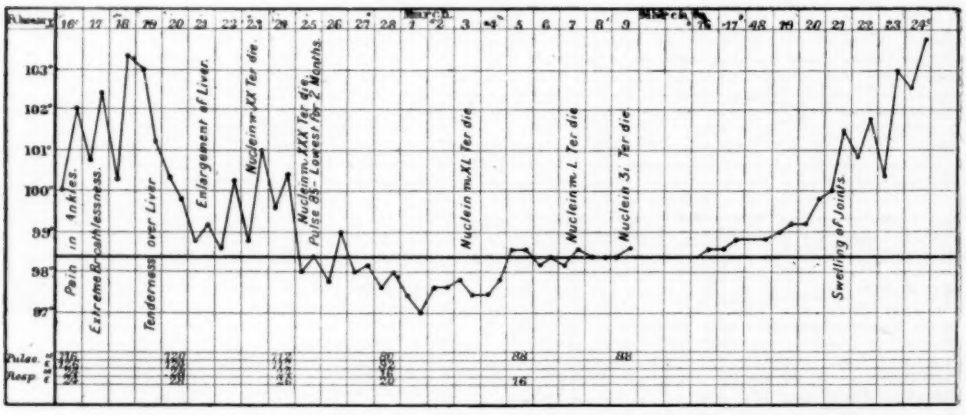


Chart illustrating the temperature of a case of ulcerative endocarditis treated by nuclein. (Under the care of Sir Richard Douglas Powell and Mr. Cecil Christopherson.)

I regret that time has not allowed me to allude more fully to some forms of cardiac disease, more especially to the subject of senile and prematurely degenerative diseases of the heart. A reference to them must have been somewhat discursive, for whilst they admit of much management they necessarily allow of little direct treatment. And, indeed, in trying to seek out points for treatment which are scattered here and there amidst groups of symptoms I fear I have already been too discursive. My endeavour has been to illustrate the principles of treatment rather than to touch upon details, the recognition of the neuropathic state, the principle of rest, of exercise, of drug administration, of restrictions in diet upon which we formulate our more precise management of individual cases. Finally, by a due acceptance in cardiac therapeutics of the principle of submission we may better help the patient to acquiesce in his restricted life, caged within the narrowed conditions under which alone it can be maintained and continue useful.

Exercises have been reduced to a system in three grades: massage, the resistance exercises or their equivalent in the mechanical methods introduced by Zander of Stockholm in 1872,[b] and others, and graduated walking exercises of Oertel, Schott or Nauheim exercises as to require no description, are governed by more complex principles and considerations. By being brought to act successively against regulated resistance every set of muscles in the body can be exercised, and by graduating the degree of resistance and securing a short rest after each set of movements every gradation in the severity of the exercises can be obtained. Certain special effects are claimed by Dr. Schott and his disciples to be produced upon the heart under almost all forms of disablement and disease by the graduated exercises in combination with aerated brine baths, but although the effects of these two treatments are a little confused it seems clear that in Dr. Schott's opinion the benefit of the exercises in these cases arise from the following considerations: 1. The periodical and regulated stimulation of the heart leads to increased action, the muscles of that organ obeying the natural law of the relation between exercise on the one hand and nutrition or growth on the other as surely as do other muscles in which the changes are more apparent to the eye. 2. It is further maintained by Dr. Schott and his coadjutors that contraction of the dilated heart and distinct gain in the force of the pulse, as well as relief of dyspnœa, &c., are clearly observed to be rapidly induced by both baths and gymnastic exercises.

[a] Prepared by Parke, Davis and Co.
[b] Groedel: Petersburger Medicinische Wochenschrift, No. 13, 1897.

3. Schott, apparently as a later observation, finds that the gymnastic course is capable of inducing the same results as the baths, the heart being stimulated to more complete contraction by reflex stimulation of the cardiac centres through the influence of exercise upon the motor nerves—i.e., similar in effect to the influence of aerated brine water upon the sensory nerves reflecting upon the same centres; and in this opinion Dr. Bezly Thorne agrees. Whilst I think no one could for a moment dispute the accuracy of the first proposition, which is, indeed, a matter of everyday knowledge, there do not seem to me to be any sufficiently trustworthy data in support of either of the other two. The occurrence of shrinking of the cardiac area as an immediate effect of the bath or resistance exercises has been denied by very competent observers (Groedel, Guntz, Leyden) and the question of baths and exercises producing their alleged effects by reflex influence upon nerve-centres is still undecided. 4. Dr. G. Oliver has thrown some scientific light upon the effect of exercise in showing by a very simple experiment that the mass of blood in the muscles is thereby increased, so that, e.g., an arm after exercise would displace a larger volume of water than before. 5. Dr. Oliver[10] has further shown that as a result of muscular exercises the blood thickens, the proportion of corpuscles in a given measure being increased, and he attributes this to the transfer of fluid ingredients from the blood into the substance of the muscles and lymphatic spaces. 6. Dr. Oliver quotes Brunton and Tunnicliffe's experiments in confirmation of the previously recognised effect of muscular exercise in first raising and secondly lowering the blood-pressure. 7. It is probably true that the circulation through muscles in action is more rapid and easy (after the first pressure effect of the muscle upon the vessels has passed off) and that the determination of blood to them may relieve the congestion of other organs. It is difficult to see how such replacement of blood should have any special effect in depleting the chambers of the heart except by facilitating the general circulation. 8. The effect of resistance exercises in slowing the pulse is not constant and would naturally vary with the degree of exercise and the condition of the circulation beforehand. Walking smartly across a room once or twice will often diminish the rapidity and increase the force for the time of a quickly and weakly acting heart.

The effect of the Nauheim exercises may, then, be said to be a stimulation of the heart's action with some steadying effect and increased completion of systole—an improved circulation through the coronary vessels and an increased mobility of the blood by its readier passage in greater bulk through the muscles, thus relieving stagnation in the great internal organs, especially on their venous side. In what cases are these exercises to be advised? The employment of the carefully graduated and observed exercises of Schott and Oertel may be regarded as a counsel of perfection to be advised for certain cases only as a preliminary to the return to that measure of active life of which their heart condition admits and as a guide indicative of what that measure will be and by what degree of ordinary exercise it may be arrived at. Resistance exercises are especially adapted for the initial treatment of those flabby, irritable, "stuffy" hearts, if I may use the term, as applied to cases of fatty infiltration and impaired metabolism, which are met with in people of venous plethora. In cases of chlorosis with dilated heart after a preliminary week or two of complete rest the Schott treatment is valuable if combined with a dry, bracing climate and some chalybeate. In the first commencing failure of heart in chronic valve lesions the treatment may be employed combined with a more or less complete cessation from all other exercises and similarly after such cases have been restored up to a certain point by digitalis treatment. Further, certain cases in which from the symptoms and signs we recognise the presence of atheromatous change in the coronary vessels, the treatment may be cautiously tried in combination with much rest. These cases are characterised by a certain degree of plethora and by breathlessness, attended with cardiac pain on arriving at a certain stage of walking or inclined walking exercise. If the treatment be mainly confined to these lines it is undoubtedly an aid to our therapeutics.

There are other cases again in which it should not be employed. All cases of acute endocarditis, whilst there is any trace of activity of lesion remaining are still more unsuitable for this than for the massage treatment. Cases of advanced cardio-vascular changes of the nature of sclerosis and particularly when associated with granular kidney are absolutely unsuited. In cases of introspective people with neurotic hearts, the treatment is best avoided. The numberless cases of imaginary weak hearts that would naturally flock to specified "cures" require a diagnosis and a better occupation than that of indoor gymnastics. The exercises have in my experience not proved successful in tachycardial cases. For exphthalmic goitre in the early stages they seem eminently unfitted.

A still more pronounced treatment is the Oertel treatment of graduated walking exercises with a dietary restricted in fluids. A dry, highly nitrogenous diet with avoidance of fats and a very sparing allowance of starch, with fluids restricted to 36 ounces a day all told, and steady walking exercise for distance and steepness of ascents adapted to the condition of the patient. The gentlest incline walks can be arranged with frequent rests or the exercise can be pushed to the point at which deep gasping respirations are excited and a profuse action of the skin is produced. This treatment is fully described in Ziemssen's Cyclopædia. It has been replaced very much by the Schott exercises, to which, however, it may be regarded as a sequel. The guiding principles and restrictions of its use are sufficiently obvious. Its chief advantage is that it is undertaken in the open air. There is no doubt that some of the discomfort which ensues from massage and passive exercises, the unexpected sense of fatigue and languor, may often be attributed to want of good air in abundance adapted to the increased oxidation produced. And this leads me to mention another point of great importance in the treatment of impaired hearts, the desirability of the patients taking full inspirations, especially during the limited open-air exercise allowed to them. The constant aspiration of the elastic lung as an aid to the circulation is scarcely yet appreciated in practical medicine. I endeavoured to emphasise its importance many years ago as a force of constant action even through the whole period of expiration and as increasing with the inspiratory expansion of the lungs.[11] I have been in the habit often of advising bedridden people to take an occasional series of deep inspirations with the view of lessening venous stagnation. Dr. Oliver, in his Croonian lectures, and quite recently in his remarks at the British Balneological and Climatological Society, has drawn attention to the effects of deep, slow inspirations with firm contraction of the abdominal parietes in emptying the hepatic and other abdominal veins and in increasing splanchnic vasomotor tone.

All the points which have been noted with respect to formulated exercises are common to other less regulated kinds of exertion of similar degree and severity. The wielding of a salmon rod is a resistance exercise equal to and more amusing than any of those of Nauheim. My friend Dr. Oliver would find the muscles swell, the blood thicken, the blood-pressure at first rise and then fall, the venous currents quicken and internal congestion relieved after a similar manner. Any physiologist might see the same phenomena on a milder scale when observing the enthusiastic golfer with his whole mind occupied and his every muscle braced and restrained in accomplishing some delicate stroke of the game. The "sense of strength" in billiards is only another still more delicate balance of muscular work. We have since the beginning of the world been undergoing in our sports and pastimes resistance exercises—every one set of muscles checked and regulated by the opposing muscles. But exercises have not been organised in any graduated scale calculated to be beneficial and not harmful for those whose hearts are weak or partially disabled. Hence, although we have many of us seen for years past, perhaps since the teachings of Stokes sank into the professional mind, the beneficial effects of well-advised and guarded exercise in cases of heart disease, it is nevertheless certain that we have learned from the advocacy of elaborate exercises by Beneke, Oertel, and Schott, and Dr. Thorne a greater confidence in their use from a more precise knowledge of their effects. Exercises of most varied kinds can be devised suitable to all degrees of cases in which any exercise at all is desirable. Level walks with frequent pauses, similarly taken inclined walks combined with a numbered succession of deep inspirations, golf, croquet, cricket, fishing, shooting, tennis, cycling and such-like sports taken in the open air can be graduated with considerable nicety, and are certainly as a rule to be preferred to mere gymnastics within doors.

[10] Recent discussion at the British Balneological and Climatological Society. See THE LANCET, Feb. 5th, 1898.

[11] On Some Effects of Lung Elasticity in Health and Disease. Transactions of the Royal Medical and Chirurgical Society, vol. lix., 1876.

Formerly weak-hearted people were not allowed to move; now they are made to walk. The swing of the pendulum is tending perhaps too much towards exercise. Schott, in his paper in THE LANCET in 1891,[12] with the exception of aggravated cases beyond the reach of any treatment, allows only two conditions of heart to contraindicate the treatment by baths and resistance exercises—viz., aneurysm and progressive arterio-sclerosis, and not all cases of the latter. One has witnessed many an apparent triumph of quickly restored strength and apparent well-being in young people with acute endocarditis who have been too soon allowed to resume their exercises. It is only in the later months that the effects of the chronic deforming arteritis of the strained softened valve are manifested.

The strong brine and aerated baths of Nauheim and other places are unquestionably of much service in some circulatory disorders. They are perhaps most suitable for cases of chronic rheumatism and gout associated with high arterial tension and secondary cardiac disturbance. In cases of functional excitement of the heart's action in connexion with quiescent or only imperfectly compensated valvular affections they may be used. In the latter cases at first in combination with more or less complete rest rather than with graduated exercises. In the high tension and less quiescent cases the higher temperatures, calculated to lower tension and to stimulate surface circulation, are more useful. In the more neurotic cases with sound hearts the more tonic and comparatively lower temperatures may be employed of shortened duration. It is well pointed out by Dr. Groedel that the baths and exercises are two separate therapeutic agents and that in perhaps only 20 per cent. of the cases are they usefully employed in combination, although massage may be more frequently employed. Beneke, who originated the bath treatment at Nauheim, was very sound in his doctrine to avoid all gymnastic exercises until after the lapse of six months from any acute endocarditis.

[12] THE LANCET, May 23rd and 30th, 1891.

ANTI-STREPTOCOCCIC SERUM.

BY LOUIS COBBETT, M.B. CANTAB., F.R.C.S. ENG.

THE object of this paper is to inquire whether the anti-streptococcic serum has justified the claims made for it, and whether it should be used for the treatment of streptococcal disease in man. Already a considerable number of cases which have been treated with the serum have been reported; it is not, however, my intention to discuss these reports here, because from the nature of streptococcal diseases it is difficult to arrive at a sound judgment as to the effect of any method of treatment, and because in my opinion the serum should be proved in the laboratory beyond any possibility of doubt to be capable of controlling experimental streptococcal infections in animals before it is used even tentatively in cases of human sickness. This paper, therefore, will deal with the history of anti-streptococcic serum and the more important laboratory researches which have been made with it.

Since it is still uncertain whether there is one streptococcus or whether there are many streptococci which are pathogenic to man it is necessary to bear in mind that a serum which protects against one streptococcus will not necessarily protect against all streptococci. Two questions, therefore, present themselves for consideration: (1) has it been shown to be possible to obtain from an immunised animal a serum which will protect against the streptococcus used to immunise that animal; and (2) if so, will this serum protect against all the streptococci which are pathogenic to man?

Serums possessing protective and remedial properties have been obtained from animals immunised against many of the pathogenic micro-organisms. Of these the anti-tetanic and anti-diphtherial serums alone have a well-marked antitoxic power. Some others have a feeble antitoxic action, but they owe their protective power chiefly to the fact that they lead indirectly to the death of micro-organisms in the animal body. The mechanism by means of which they do this is not thoroughly known, but it may be stated that the serums have little, if any, more direct bactericidal action than the normal serums of the same animals and that the destruction of the microbes is associated with some vital reaction on the part of the animal.

The anti-streptococcic serum belongs to the class of anti-bacterial rather than to that of antitoxic serums. The hope therefore that it will prove of value in cases of streptococcal disease in man must be based on the success already obtained with such serums and not upon the far greater success achieved by diphtheria antitoxin. Many experimenters have immunised animals against the streptococci. H. Roger was the first to investigate the anti-bacterial and protective properties of the serum of these animals. He found that the streptococcus grew as freely in the serum of an immunised as in that of a normal rabbit. But while it had acquired no direct bactericidal power it was, nevertheless, not without action, for cultures of virulent streptococci when grown in it were found to be harmless.[1] From this observation he concluded that the streptococci had become attenuated by the serum. It is curious that he did not attribute the harmlessness of the injections to the action of the serum upon the animals which received it along with the streptococci, for he went so far as to show that the serum in question had some curative power.[2] On this point he says: "If one injects the serum into the veins of a rabbit and at the same time inoculates it with a virulent culture one can see that the animal survives, but it is on condition that it has received a large quantity (5 to 6 c.c.) of the serum." Now in the majority of the experiments which he took to show that the serum attenuated the microbe he had used no more than 1 c.c. of culture in the serum and this, he thinks, was insufficient to immunise the animal. This conclusion was probably erroneous, for Bordet[3] has recently shown that the daughter cultures of streptococci grown in the serum of an immunised animal (Marmorek's) have lost none of their virulence; and that the same is true of the parent cocci themselves if they be washed free from the serum in which they have grown.

Roger's observations may be said to have started the serum therapy of streptococcal affections. In 1892 Behring[4] asserted that to obtain a remedial serum for human streptococcal affections was only a matter of industry and recommended for this purpose the immunisation of horses. Mironoff,[5] working with a culture which he had received from Roger, immunised rabbits by various procedures. He states that their serum was capable of conferring immunity on other rabbits and also of favourably influencing the course of a septicæmia already in evolution. But the experiments which he gives are not very conclusive because the culture used was so weak that the control animals did not die for many days. In 1895 several experimenters were at work at the production of the anti-streptococcic serum, including Petruschky in Berlin, Borneman in Vienna, and Denys and Leclef in Louvain, when on Feb. 23rd, at the Société de Biologie in Paris, Marmorek[6] and Charrin and Roger[7] simultaneously made a communication on the subject. Marmorek had obtained a streptococcus of extraordinary virulence which killed rabbits in a dose of 0·00,000,000,001 c.c., preserved its virulence in cultures, and produced a toxin far more active than those hitherto prepared. With living cultures and with toxic filtrates he had succeeded in immunising animals and had obtained a serum which had very active preventive and curative powers. Charrin and Roger had immunised a mule with cultures concentrated and heated to 115° C. They stated that "the serum is curative like the serum of vaccinated animals," but they gave no experiments. They also reported some cases treated with the serum. Soon after this Marmorek[8] published his researches more

[1] H. Roger: Modifications du Sérum à la suite de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1890.

[2] H. Roger: Contribution à l'Étude Experimentelle du Streptocoque de l'Érysipèle, Revue de Médecine, Paris, 1892.

[3] J. Bordet: Contribution à l'Étude du Sérum Anti-streptococcique, Annales de l'Institut Pasteur, 1897.

[4] Behring: Untersuchungs-ergebnisse betreffend den Streptococcus Longus, Centralblatt für Bakteriologie und Parasitenkunde, Jena, 1892.

[5] Mironoff: Immunisation des Lapins contre le Streptocoque et Traitement de la Septicémie Streptococcique par le Sérum du Sang des Animaux immunisés, Archives de Médecine Experimentelle, Paris, 1893.

[6] A. Marmorek: Le Streptocoque et le Sérum Anti-streptococcique, Comptes Rendus de la Société de Biologie, 1895.

[7] Charrin and Roger: Essai d'Application de la Sérum-therapie au Traitement de la Fièvre Puerpérale, Comptes Rendus de la Société de Biologie, Paris, 1895.

[8] Marmorek: Le Streptocoque et le Sérum Anti-streptococcique, Annales de l'Institut Pasteur, vol. ix., 1895. Streptococcus und das Antistreptokokken-Serum, Wiener Medicinische Wochenschrift, 1896. Ref. by Borneman, Centralblatt für Bakteriologie und Parasitenkunde, Jena, Band xix.

fully. His streptococcus had come from a case of tonsillitis and had attained its extreme degree of virulence by repeated passages through mice and rabbits. He had devised a culture medium consisting of one part of human ascitic fluid and two of bouillon, or, better still, two parts of human serum and one of bouillon, in which the microbe would grow without losing this extreme degree of virulence. With living cultures of this streptococcus he had immunised a number of animals, including horses and donkeys, and from them had obtained his active serum. In order to measure the protective power of the serum he found by experiment the smallest quantity which would protect a rabbit of from 1500 to 1800 grammes weight against ten times the minimal fatal dose of virulent streptococci injected from twelve to eighteen hours later. The best serum which he had been able to obtain was of such strength that 0·2 c.c. sufficed to do this (see Table I.). The serum also possessed some curative power when injected after the streptococci, but larger quantities were then necessary: thus, 1·0 c.cm. given three hours after infection with ten times the fatal dose succeeded in saving the life of a rabbit and 5 c.c. cured an animal five hours after inoculation. Doses of 5 c.cm. repeated at intervals of six hours were more effective than a single injection. From liquid cultures of his very virulent streptococci he obtained toxic filtrates more powerful than any hitherto produced. Of these 1 c.c. would kill a rabbit of medium size. The possession of this toxin enabled him to determine whether his serum had any antitoxic power, with the result that it was found to have some such power but in far less degree than its power of protecting against the living micro-organisms. For example, from 3 to 5 c.c. protected against the single fatal dose, while smaller quantities only prolonged life.

With toxic filtrates also he immunised a horse, injecting 1260 c.cm. in the course of two months, but the serum of this animal was only slightly active and could not be compared with that of an animal treated with living culture. Whether it possessed any antitoxic power he does not say.

Simultaneously with the publication of Marmorek's researches and in the same number of the "Annales de l'Institut Pasteur" there appeared a paper by Gromakowsky[9] from Parlowsky's laboratory, in which he recorded how he had immunised rabbits with the streptococcus erysipelatis and had obtained a serum of which the subcutaneous injection of 2 c.c. protected rabbits from the subsequent introduction of culture into the peritoneal cavity in quantities slightly larger than those which killed the control animals. Another serum only retarded death, while of a third 4 c.c. subcutaneously injected three hours after the peritoneal injection of a lethal dose of culture preserved the life of the animal. Thus he had a small amount of success, but he used large quantities of serum and a feeble streptococcus.

Shortly after the appearance of Marmorek's discovery Professor Denys and J. Leclef[10] in Belgium published the results of an independent investigation of the same problem. Marmorek had used, both for immunising his animals and for testing his serum, a very virulent streptococcus, which when injected subcutaneously caused death by septicæmia without local lesion. Denys and Leclef state that they used a streptococcus which at first of moderate virulence, had been reinforced until 0·00,000,01 c.cm. of an 18–24 hour bouillon culture injected under the skin of the rabbit's ear would cause severe erysipelas. But in the experiments which they give it appears that much larger quantities, 0·02, only caused erysipelas of moderate severity and do not seem to have proved fatal to any of the animals. They immunised four horses, two with living cultures and two with filtrates. The serum obtained from these animals they tested by injecting small quantities into rabbits and subsequently inoculating their ears with living culture. The protective power of the serum was shown by the absence of erysipelas. There seems no doubt that their serums were able to protect against this feeble infection, as the following experiments show:—

Experiment I.—0·25 c.c. of serum protected against 0·001 c.c. of culture.

Experiment II.—0·1 c.c. of serum protected against 0·002 c.c.; 0·02 failed.

Experiment III.—0·05 and 1 c.c. of serum protected against 0·02 c.c.; 0·1 to ·25 failed.

Experiment IV.—From 2 to 4 c.c. of serum protected against 0·02 c.c.

Experiment V.—From 0·5 to 1 c.c. of serum protected against 0·01 c.c; 0·25 failed.

Experiments I., II., III. were made with the serum of the animals injected with filtrates, and Experiments IV. and V. were made with the serum of the animals injected with living culture. In their hands the two methods gave equally good results and they claim to have succeeded where Marmorek failed in producing an active serum by means of injections of filtrates; but it must be pointed out that their tests were far less severe than his.

Dr. W. Bulloch,[11] in the autumn of 1895, continued the work of immunising horses against the streptococcus which had been begun by Dr. Armand Ruffer in the Institute for Preventive Medicine in the spring of that year. He used a streptococcus obtained originally from a case of erysipelas in man and which had been raised in virulence by passage through rabbits. He reported experiments in which the serums obtained from three horses were tested on the rabbit against the streptococcus employed for immunising the horses. The serum was injected subcutaneously and the culture into the veins. Of one serum 0·05 c.c. protected against ten times the dose of culture which proved fatal to the control animal, while 0·02 c.c. and 0·01 c.c. failed to do so. Of another 0·01 c.c. protected against four times the dose which proved fatal to the control, while 0·008 c.c. and 0·001 c.c. failed. Of the third serum 0·02 c.c. and probably 0·05 c.c. protected against ten times the lethal dose, while 0·01 c.c. failed.

The work of Marmorek attracted a good deal of attention and several bacteriologists set themselves to test the strength of his serum. Astonishment and disappointment were the result; neither in the hands of Petruschky, Aronson, nor Borneman, and more recently of Van de Velde, did it appear to have any protective power. Merieux and Niemann, Bordet and Courmont, on the other hand, found it active. It is necessary, therefore, to go carefully into the matter in order to find if possible some explanation for the conflicting experiences of these experimenters.

Petruschky[12] tested Marmorek's serum against a streptococcus which had come originally from a case of septicæmia in man and which had been raised to a high degree of virulence for the rabbit by repeated passage through the body of that animal. To his surprise he failed to find in Marmorek's serum any protective power whatever; although the dose of culture was so small (0·00,000,1 c.c.) that two out of three controls failed to become infected, yet none of the animals treated on the previous day with 0·25 c.c. of the serum survived. He also tested the protective power of his own and Marmorek's serum against wound infection of the rabbit's ear. Now, though with his own serums he had never been able to save a rabbit so infected from death, yet he had now and then observed death delayed, and in these cases an inflammation of the ear had occurred. This appearance of a local reaction, together with a survival of the animals for several days after the controls were dead, he looked upon as evidence of an increased power of resistance on the part of the animals which could only be attributed to the action of the serum. Even this increased resistance Marmorek's serum was unable to confer, though as much as 5 c.c. were injected into the animals. It occurred to him that the serum might have become useless for some unknown reason or that, while active against the streptococci used to produce it, it possessed no power of protecting against the streptococcus which he used. He therefore wrote to Marmorek asking for fresh samples and for cultures of his streptococcus. Marmorek cordially complied, sending also some tubes of his ascitic bouillon. Petruschky repeated his experiments and the results were the same as before. Although it was stated on the bottles of serum that 0·05 c.c. would protect against ten times the minimal fatal dose, yet even 0·2 c.c. failed to protect against a dose which failed to kill all the control

[9] D. Gromakowsky: Immunisation des Lapins contre le Streptocoque, Annales de l'Institut Pasteur, 1895.

[10] Denys and Leclef: Contribution à l'Etude du Sérum Anti-streptococcique, Bulletin de l'Académie Royale de Médecine de Belgique, 1896.

[11] W. Bulloch: Streptococcus Pyogenes and Anti-streptococcus Serum, THE LANCET, May 2nd, 1896.

[12] J. Petruschky: Ueber die verschiedener Erscheinungsformen der Streptokokken-Infektion und so weiter, Zeitschrift für Hygiene, Band xxii. Ueber Antistreptokokken-Serum, Zeitschrift für Hygiene, Band xxii. See also Untersuchungen über Infektion mit Pyogenen-Kokken, Zeitschrift für Hygiene, Bande xvii. und xviii., 1894. Versuche mit Antistreptokokken-Serum, Centralblatt für Bakteriologie und Parasitenkunde, 1896.

animals. Space does not permit me to give an account of all the experiments, but it is sufficient to say that several very careful experiments were made with the result that Marmorek's serum proved equally useless both against Petruschky's and Marmorek's streptococci. Petruschky also subjected the anti-streptococcic serum of Professor Merieux and Professor Niemann of Lyons to the same series of tests, with the result that it also proved entirely worthless.

Petruschky[13] had also an opportunity of testing the protective power of Marmorek's serum on the human being when, under the direction of Professor Koch, he was inoculating with erysipelas patients who were suffering from inoperable malignant tumours. Among these was a young woman who showed herself susceptible to repeated attacks of the disease and therefore offered a good opportunity for the trial of anti-streptococcic serum. Marmorek's, Aronson's, and Petruschky's serums were given on different occasions in doses of 10 c.c. twenty-four hours before inoculation with streptococci. The inoculations were each time successful either immediately or after a repetition and the serum appeared to exert no influence upon the course of the infection. The inoculation was made on each occasion with a streptococcus which came from a case of human peritonitis.

It is interesting to compare the details of the experiments of Petruschky and Van der Velde, on the one hand, with those of Merieux and Niemann and the single experiment reported by Marmorek on the other. Of these the following are selected as examples:—

MARMOREK'S SERUM *v.* MARMOREK'S STREPTOCOCCUS.

TABLE I.—*From Marmorek.*

Weight of rabbit.	Serum.	Culture 18 to 24 hours later.	Result.
1500 grammes	0·2 c.c.	0·00,000,1 c.c.	Lived.
,, ,,	0·2 c.c.	,,	,,
,, ,,	0·1 c.c.	,,	+ 10 days.
,, ,,	0·1 c.c.	,,	+ 11 days.
,, ,,	—	,,	+ 30 hours.
,, ,,	—	0·00,000,01 c.c.	+ 30 hours.

TABLE II.—*From Merieux and Niemann.*

Weight of rabbit.	Serum.	Culture 18 to 24 hours later.	Result.
—	0·1 c.c.	0·00,01 c.c.	Lived.
—	0·2 c.c.	,,	,,
—	0·5 c.c.	,,	,,
—	0·1 c.c.	0·00,001 c.c.	,,
—	—	0·00,01 c.c.	+ 3rd day.
—	—	0·00,001 c.c.	+ 2nd day.

TABLE III.—*From Petruschky.*

Weight of rabbit.	Serum.	Culture next day.	Result.
1500 grammes	0·05 c.c.	0·00,000,1 c.c.	+ 4 days.
1700 ,,	0·1 c.c.	,,	Lived.
1605 ,,	0·1 c.c.	,,	,,
1790 ,,	0·2 c.c.	,,	+ 2 days.
1230 ,,	0·2 c.c.	,,	Lived.
1220 ,,	—	,,	+ 3 days.
910 ,,	—	,,	+ 19 days. From other causes.
880 ,,	—	,,	Lived.
1420 ,,	—	0·00,000,001 c.c.	,,
1450 ,,	—	,,	,,
960 ,,	—	,,	,,

[13] Petruschky: Specificität des Erysipelstreptokokkus, Zeitschrift für Hygiene, Band xxiii.

TABLE IV.—*From Van de Velde.*

Weight of Rabbit.	Serum.	Culture next day.	Result.
—	0·5 c.c.	0·00,01 c.c.	+ 26 hours.
—	0·5 c.c.	0·00,000,1 c.c	+ 28–34 hours.
—	0·5 c.c.	0·00,000,001 c.c.	+ 20 hours.
—	0·5 c.c.	0·00,000,000,1 c.c.	+ 38 hours.
—	—	0·00,000,001 c.c	+ 36 hours.
—	—	,,	+ 24 hours
—	—	0·00,000,000,1 c.c.	+ 36 hours.
—	—	,,	+ 30 hours.

If one compares Petruschky's experiments with those of the other writers mentioned one is struck by the fact that so many of his control animals recovered. This at first sight makes it appear that his test was a lenient one, but that this deduction is not sound the following considerations will show. He used a culture of *maximal virulence*—that is to say, one which killed rabbits no matter how few the cocci which had gained entrance into them. The evidence of this was that if a number of these animals were injected with a small quantity of a highly diluted culture, those which did not die from acute septicæmia showed no ill effects whatever. Into these no streptococci had found their way. It must be clearly understood that one cannot dilute a culture of streptococci as we can dilute a liquid or even as we can dilute a fine powder in suspension. The streptococci stick together in chains of greater or less length and often in little tangles composed of many chains. However much we dilute and shake we shall not succeed in breaking up these masses into their component parts. Thus it happens that if one injects into each of a series of animals 1 c.c. of a 1 in 1,000,000 dilution of streptococcus culture for example, some animals will receive comparatively large doses while others will receive no streptococci at all. Thus the minimal fatal dose of streptococci cannot be determined. The smallest dose which is certainly fatal can indeed be found by experiment, but this will have no constant relation to the theoretical minimal fatal dose because the length of the chains and the tendency to form tangles varies enormously in different cultures. In some the organisms exist in the form of diplococci and short chains. Such cultures are capable of being fairly uniformly distributed when diluted and of such the smallest dose certainly fatal in practice will approximate to the theoretical minimal fatal dose. But it is quite otherwise with cultures which consist of long chains collected together into tangled masses. Of such the smallest certainly fatal dose may contain perhaps many hundred cocci and if these be very virulent then it will be many hundred times as large as the theoretical minimal fatal dose. Thus the severity of the test with ten times the certainly fatal dose may vary enormously in the hands of different experimenters. Now Marmorek stated in his original paper that while 0·2 c.c. of his serum would protect against ten times the fatal dose, this quantity was altogether insufficient when the test was made with larger quantities of culture. Moreover, he said that his culture was so active that if more than a certain quantity be injected death will result no matter how much serum has been previously given. It is possible therefore that some may have failed to find any protective power in his serum because their tests were too severe. It seems certain that in Marmorek's own experiment his serum exhibited a real protective power and that his good results are not to be attributed to a failure of infection, as Petruschky hints, because those animals which received a dose of serum insufficient to save their lives nevertheless lived ten and eleven days, while the controls died in thirty hours. It is clear that these animals were infected because they ultimately died. And one must conclude therefore that the serum was at least able to prolong life.[14]

Immediately after Petruschky, Aronson[15] published some similar experiments made with Marmorek's serum. He used a streptococcus obtained from the pus of a case of phlegmon, the virulence of which had been raised by passage through rabbits until 0·00,000,001 c.cm. killed a rabbit of 1000

[14] It is a pity that he does not state whether these animals suffered from any local lesion.

[15] H. Aronson: Ueber Antistreptokokken-Serum, Berliner Klinische Wocherschrift, 1895.

grammes in two days. He employed an alkaline bouillon containing 0·5 per cent. of peptone and 0·1 per cent. of glucose. He was struck by the great variation in the virulence of his culture and remarks that the method of testing anti-streptococcic serum is very uncertain and does not approach in accuracy, even remotely, to the Ehrlich method of testing anti-diphtheria serum. Under these circumstances it was natural that he should test the serums of the horses with which he was himself immunising alongside of Marmorek's serum, intending to use the latter as a standard. It was thus that to his surprise he discovered that in his hands at least Marmorek's serum was entirely worthless. In a dose of 1 c.c. it did not even delay death. He also tested the serum made by Merieux and Niemann in Lyons and found it no better.

The serum of his own horses was not without a certain protective power. Animals which received from 0·4 to 1 c.c. recovered from an infection which killed the controls in less than forty-eight hours. He, however, discovered that after being kept three months preserved with 0·5 per cent. of phenol it had almost entirely lost its activity; 1 c.c. did not produce any effect and even 4 c.c. only prolonged life for nine days. Judging by the opalescent appearance of Marmorek's serum he thought that it also had been preserved with phenol and to this he attributed its worthlessness. Petruschky,[16] however, who criticises this conclusion, does not think the evidence sufficient to establish it and says that in the samples of Marmorek's serum which he himself used he found no trace of phenol. Aronson's experiments, made with the same serum at different dates, are not strictly comparable with one another, because the virulence of the streptococcus used to test them had increased in the meantime, so that the dose given on one occasion was 0·00,01 and on the other 0·00,001 c.c. Nevertheless the suggestion that the protective power of an anti-streptococcic serum may be easily lost is very probable and it is desirable that further investigations should be made on this point.

Shortly after Aronson, Borneman[17] published the results of his experiments, which had been made in the State Antitoxin Laboratory in Vienna under Professor Paltauf. He had immunised a horse and an ass with a streptococcus which he had received from Marmorek. The same microorganism served also for testing the serum. At first it was not very active, but he increased its virulence in the usual way until 0·00,001 c.c. was a fatal dose; beyond this point he could not raise it. This quantity was not certainly fatal and so he used 0·00,01 c.c. as his test dose. Even this dose sometimes failed to kill rapidly and animals which received it would sometimes linger for several days. The test, therefore, was not a severe one. Borneman tested two samples of Marmorek's serum along with his own. These had been sent to him by Marmorek himself but without any statement as to their strength. In the experiments made with one of these samples the serum may have prolonged life a little; in those made with the other it proved worthless. While the paper was in the press a third sample of Marmorek's serum was received through Professor Gruber. A single experiment was made by Borneman with this which showed that it was not entirely without action, for 1 c.c. protected a rabbit against 0·01 c.c. of culture, while 0·1, 0·2 and 0·5 c.c. failed to do so. Thus in his hands Marmorek's serum was found to have but a slight or doubtful action against even Marmorek's streptococcus. With the two serums prepared by himself he got better results, 0·1, 0·2, and 0·5 c.c. of one and 0·2 and 0·5 c.c. of the other sufficing to protect rabbits subsequently infected with the dose of culture mentioned above. He inquired whether the serums lost their protective power with the lapse of time. But if his serums did so the diminution was not great enough to be clearly demonstrated by the methods used. He concludes as follows: "The research clearly showed that, as Marmorek and Aronson have stated, a passive immunisation against the streptococcus is possible. And Petruschky's results with the anti-streptococcic serum hold only for the serums from Lyons and Paris tested by himself, and with his conclusions about the latter we must agree."

At the end of 1896, shortly after Aronson's paper and before Borneman's had appeared, Merieux and Niemann,[18] whose "Antistreptococcin" had been condemned by Petruschky and Aronson, published a paper in which are set out the details of numerous experiments, in which they had tested their own serum (serum Vaise), together with Marmorek's, and a serum made by Charrin and Roger in Paris, against several streptococci, including that used to produce their own serum (viz., streptococcus Vaise) and that used by Marmorek. It may briefly be stated that Charrin and Roger's serum proved worthless throughout. The other serums came successfully through their trial. The experiments were of the usual kind, the serum was given the day before the infection, and the cultures used were such as to produce, when given in minute doses, active septicæmia and death. The results may be briefly tabulated as follows:—

TABLE V. *showing the smallest quantity of serum which sufficed to protect against ten times the minimal fatal doses of three different streptococci. (Compiled from Merieux and Niemann.)*

Serum.	Streptococcus Vaise.	Streptococcus Marmorek.	Streptococcus Scarlatina.
Serum Vaise—			
Horse 5	1·0 c.c.	—	—
,, 3	0·2 c.c.	—	—
,, 37	0·1 c.c.	—	—
—	0·1 c.c.	0·2 c.c.	0·2 c.c.
Serum Marmorek ...	0·8 c.c.*	0·1 c.c.	0·2 c.c.

* 0·1 c.c., 0·2 c.c., and 0·5 c.c. failed.

The reader will observe that against streptococcus Vaise serum Vaise was eight times as strong as serum Marmorek, while, on the other hand, against streptococcus Marmorek serum Marmorek was twice as strong as serum Vaise. To this point I shall return later.

In March, 1897, J. Bordet[19] published some researches on the mechanism of the immunity conferred by Marmorek's serum. Though he did not attempt to measure the strength of the serum systematically, yet in the course of his work he made some experiments of which he quotes the following. He used Marmorek's streptococcus. A rabbit received 10 c.c. of the serum and on the following day 0·5 c.c. of culture and remained well, while the control, which received 0·00,01 c.c. of the culture ($\frac{1}{10}$th part of the dose which failed to harm the first animal), died in three hours. Another rabbit received 0·05 c.c. of serum and 0·00,1 c.c. of culture and remained well; while the control, which received 0·00,001 (or $\frac{1}{10}$th of the dose given to the other), succumbed. He says that the efficacy of Marmorek's serum shows itself in the most elementary experiments, that Petruschky must have worked with a serum which for some reason had lost its power, and he ignores the fact that this observer obtained fresh supplies from Marmorek himself and obtained no better results than before.

J. Courmont[20] also found that Marmorek's serum would protect rabbits against Marmorek's streptococcus. 1·5 c.c. was subcutaneously injected into two rabbits of 2000 grammes weight and 0·00,001 c.c. of culture was given intravenously ten minutes later; one survived and the other lived 150 hours, while the control died in twenty-two hours. Precisely similar results were obtained with another serum prepared after Marmorek's method and with his streptococcus.

In July, 1897, Van de Velde[21] (Louvain) published a similar series of experiments. As it will be necessary presently to return to his paper it will be sufficient to say in this place that he immunised horses in the ordinary way with living cultures and obtained serums of which somewhat large quantities from 2·5 to 5·0 c.c. successfully protected against large multiples (in one case according to the author 5000 times) of the minimal fatal dose of streptococci. On

[16] Centralblatt für Bakteriologie, Band xx.

[17] B. Borneman: Ueber das Antistreptokokken-Serum, Wiener Klinische Wochenschrift, 1896.

[18] Merieux and Niemann: Ueber Antistreptokokken-Serum, Berliner Klinische Wochenschrift, 1896.

[19] Annales de l'Institut Pasteur.

[20] J. Courmont: Le Sérum de Marmorek n'immunise pas le Lapin contre le Streptocoque de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1897. Nouvelles Expériences démontrant que le Sérum de Marmorek n'immunise pas le Lapin contre le Streptocoque de l'Erysipèle (loc. cit.). Streptocoque de l'Érysipèle et Sérum du Marmorek, Réponse à M. Lemoine, Comptes Rendus de la Société de Biologie, 1898. Nouvelles Expériences sur le Sérum de Marmorek (loc. cit.).

[21] H. Van de Velde: De la Nécessité d'un Sérum Antistreptococcique polyvalent pour combattre les Streptococcies chez le Lapin, Archives de Médecine Experimentelle, Paris, 1897.

the other hand, he found Marmorek's serum completely inactive even against a single fatal dose of Marmorek's streptococcus.

F. Schenk,[22] who continued Borneman's work in Professor Paltauf's laboratory in Vienna, continued to immunise the horse and the ass with which Borneman had worked and in addition immunised two other horses. But for this purpose he used the same streptococcus which had served Borneman and which had originally come from Marmorek, and this microbe also served for testing the serum. The tests were carried out in the usual way except that the subcutaneous injection of streptococci received by the rabbits twenty hours before the serum was 100 times the lethal dose. Quantities of serum which varied from 0·1 to 5 c.c. were used. The results of these experiments were disappointing. The experimenter himself says that he was unable to demonstrate that the serum had any action on the infected animals; that though some of the animals lived these were often those which had received the smallest quantity of serum; and he characterises his results as being in complete harmony with those of Petruschky. A careful examination of the details of his experiments, however, has convinced me that this conclusion is not quite in harmony with his results, for of 60 animals treated 23 (36·6 per cent.) recovered, while of 17 controls 2 only (11·4 per cent.) survived. Moreover, the average duration of life of those which survived was 6·8 days in the case of the treated and 3·5 in the case of the untreated animals. Furthermore, all the experiments with the serum of one of the horses gave good results. Of 12 animals treated with this serum 6 died and these had received 0·1, 0·1, 0·5, 0·5, 0·5, and 2 c.c. of serum respectively, while those which recovered had received 0·5, 1, 2, 3, 3, and 5 c.c. of serum. The animal which died after receiving 2 c.c. of serum survived the infection 16 days. Surely here is some evidence that the serum had a protective action. The author states that he got no better results with perfectly fresh serum than with that which was older, but here again his conclusion does not seem well founded, for he got his best results with serum which was perfectly fresh. In one experiment six of nine animals treated with perfectly fresh serum recovered, while all three controls died; while in later experiments made with the same serum the results were not so good. His experiments appear to me at least to show that it is possible to obtain a serum which will protect animals against the streptococcus which has been used in the production of that serum and also afford some evidence that the serum is more active when perfectly fresh.

Having reviewed the experimental evidence in detail I have now reached a point at which I may attempt to answer the first of the questions raised at the commencement of this paper.

1. *Has it been shown to be possible to obtain from an immunised animal a serum which will protect against the particular streptococcus used to immunise that animal?*—To this question an affirmative answer must be given. Marmorek, Charrin, and Roger, Denys and Leclef, Bulloch, Aronson, Borneman, Schenk, Courmont, and Van de Velde have all succeeded in producing a serum which in their own hands protected against the streptococcus used to immunise the animals. Petruschky alone denied that the possibility of obtaining an anti-streptococcic serum had been demonstrated. It is true that Petruschky, Aronson, and Van de Velde found Marmorek's serum useless and Borneman found it little better and all these observers with the exception of Aronson tested it against Marmorek's streptococcus; on the other hand, Merieux and Niemann (Lyons), Méry, Bordet (Paris), and Courmont (Lyons) have confirmed Marmorek in that they have shown that his serum will protect against his streptococcus. One cannot doubt the integrity and general accuracy of these observers. How, then, is one to explain their conflicting results? The test is admittedly unsatisfactory and far from being uniformly severe, yet this alone would not account for the frequency with which experimenters have found serums prepared by themselves active and those prepared by others worthless. It will be noticed that those observers who got good results with Marmorek's serum worked in France, while those who got bad results with it worked in other countries. It is probable that the former were able to get fresher supplies of serum from Paris than the latter. Still more probable is it that when an observer tests two serums, one prepared by himself and the other by some other person, the former has been the more recently obtained from the animal. This assumption seems to offer the only solution of the difficulty.

It must therefore be concluded that *the anti-streptococcic serum possesses some power of protecting rabbits against the streptococcus used to immunise the animals which yielded the serum, but that there is reason to believe that this power may be easily lost.*

2. *Is the anti-streptococcic serum active against all the streptococci known to be pathogenic to man?*—Having arrived at the conclusion that it is possible to obtain from an immunised animal a serum which has the power of protecting against the particular streptococcus used to immunise that animal we must now inquire whether this anti-streptococcic serum is active against all the streptococci known to be pathogenic to man. Thus we come back to the old question whether the streptococci are one or many. When Fehleisen and Rosenbach described the streptococcus erysipelatis and the streptococcus pyogenes respectively, the differences observed were then thought to be sufficient to clearly distinguish them from each other. But these differences have not been found constant. Lingelsheim's classification into long and short streptococci has fared no better, for it is easy to transform the one into the other. Thus it is generally admitted that there are no cultural or morphological differences which serve to distinguish streptococci of various origin. The lesions provoked by these organisms have been shown to depend partly upon the seat of infection and the resistance capacity of the animal and partly on the virulence of the streptococci—the latter can be altered almost at will. And with the same streptococcus one can produce local suppuration, erysipelas, or septicæmia without local lesion. The streptococcus erysipelatis, under certain conditions, will produce pus and the streptococcus pyogenes an erysipelatous inflammation.[23] Moreover, Petruschky has collected a number of cases of streptococcal infection in man which have been subjected to accurate bacteriological investigation and has satisfied himself that the various streptococcal infections in man pass one into the other or proceed one from another. For example, he cites the case of an infant who suffered from typical erysipelas starting from a scratch in the naso-labial fold and this was almost certainly infected from the mother who was suffering from mastitis which showed no erysipelatous character. In recent years therefore the view has become almost generally accepted that there is only one pathogenic streptococcus and that all the various streptococcal diseases are caused by modifications of a single streptococcus pyogenes.

Recently, however, evidence has come to light which entirely re-opens this question. For quite a large number of observers have found that the serum of a horse immunised with a certain streptococcus will protect against that streptococcus but not against others. Thus some have found that Marmorek's serum protected against Marmorek's streptococcus which came from a case of tonsillitis, but would not protect against streptococci which came from cases of erysipelas. Others have found that a serum which protected well against the streptococcus used to immunise the animal which supplied it would not protect against other streptococci, even those which produced the same lesions in the rabbit, but might in some cases protect against streptococci which possessed very different pathogenic properties and that the same serum might have a great power of protecting against one streptococcus, less against another, and none at all against a third. Thus the old question as to the unity or diversity of the streptococci remains undecided.

Nocard and Lignières (quoted by Méry[24]) have shown that among the streptococci which are pathogenic to the horse, one which is associated with anasarca is very sensible to the

[22] F. Schenk: Ueber Streptokokken-Serum und über Streptokokken-Foxin, Wiener klinische Wochenschrift, 1897.

[23] On the other hand J. Courmont (Société de Biologie, 24 Juillet, 1897) compared the pathogenic properties of six cultures of streptococcus erysipelatis with those of streptococcus Marmorek. By passage through animals he could not raise the virulence of any of the former beyond the point at which $\frac{1}{10}$ c.c. was required to kill a rabbit in from 6 to 20 hours, while of streptococcus Marmorek 0·00001 c.c. was fatal. The streptococcus erysipelatis always caused erysipelas when injected into the rabbit's ear and never, even when introduced into the veins, caused hæmorrhagic effusion into the peritoneum or pericardium, as Marmorek's streptococcus did. Marmorek's streptococcus, on the other hand, even when attenuated so that 0·25 c.c. was required to kill a rabbit in from 3 to 10 days, never produced in the rabbit any of the classical lesions of the streptococcus erysipelatis. Schenk also was unable to produce erysipelas in rabbits with Marmorek's streptococcus.

[24] M. Méry: Sur une Variété de Streptocoque réfractaire au Sérum Marmorek, Comptes Rendus de la Société de Biologie, 1896.

action of Marmorek's serum, while others—viz., the streptococcus of horse pneumonia and of strangles—are entirely unchecked by it. M. Méry himself has found that Marmorek's serum did not protect against a streptococcus from a case of scarlet fever, yet protected against one given him by Marmorek. Merieux and Niemann, as already mentioned, had shown that Marmorek's serum had twice as much power against his own streptococcus as was possessed by serum Vaise and that the latter had eight times as much power as serum Marmorek against streptococcus Vaise (see Table V.). J. Courmont[25] tested Marmorek's serum together with some which had been prepared by the same method and with the same streptococcus against seven different races of streptococci. As already mentioned he found that it protected against Marmorek's streptococcus, but it altogether failed to protect against, and even seemed to make the animals more susceptible to, the others. Five of these came originally from cases of erysipelas in man and the other from an abscess. From this experience he draws the conclusion that the streptococcus erysipelatis is a species distinct from that to which the streptococcus of Marmorek belongs. Some of these observations were repeated by Lemoine[26] with opposite results, for he found that Marmorek's serum possessed some degree of power against four races of the streptococcus erysipelatis. This led to a somewhat bitter controversy. It is, however, of little importance to us to discover who was in the right, because Lemoine himself has admitted that before meeting with the four streptococci which were influenced by the serum he had isolated a great number against which the serum was inactive. Thus both agree that the serum will not protect against all streptococci.

Van de Velde selected two streptococci, A and P, which were of the kind which, when introduced into the rabbit's ear, produced erysipelas and death without, as a rule, any streptococci being discoverable in the blood and internal organs. With each of these he immunised a horse and obtained two serums, A and P, each of which he tested against these two microbes and also against streptococci of the kind that produce in the rabbit septicæmia—viz., streptococcus Marmorek and streptococcus Belfanti. The results of these experiments were as follows. Serum A protected against streptococcus A, but had a very much slighter action against streptococcus P,[27] while serum P protected against streptococcus P, but could not protect at all against streptococcus A. The specific action of these two serums he also demonstrated in the following manner: having injected 5 c.c. of each into two rabbits he inoculated the right and left ears of these animals with streptococcus A and P respectively. Of the rabbit injected with serum A only the ear inoculated with streptococci P developed erysipelas, while the converse occurred in the case of the other animal.

Further experiments showed that serum A had no power of protecting against two other streptococci of feeble virulence, even when the latter was given in such doses as would not certainly produce erysipelas in the controls. Serum A had no action upon streptococcus Marmorek. Against streptococcus Belfanti Van de Velde thinks it had some slight action, though the recovery of only one animal, and that from so small a dose as 0·00,000,01 c.c., might possibly be due to failure of infection. Serum P, however, had considerable power against streptococcus Belfanti, 5 c.c. repeatedly protecting against large multiples of the minimal fatal dose. Again, he immunised a horse with both streptococcus A and P and obtained a serum which would protect against both these organisms. He therefore recommends that horses employed to supply an anti-streptococcic serum should be injected with a number of different streptococci in the hope of obtaining a serum active against as many streptococci as possible.

Thus Van de Velde has clearly demonstrated that an anti-streptococcic serum is not active against all streptococci, even against some which are of apparently the same type as those used to produce it, though it may be active against a streptococcus of an apparently different type.

Van de Velde has also investigated the agglutinating power of his serums[28] and he finds that it goes hand-in-hand with the power of protecting. Thus serum A agglutinated streptococcus A, but had no action on streptococcus P, while serum P agglutinated streptococcus P and had no action on streptococcus A and serum A + P agglutinated both. This lead him to make a suggestion that before treating a patient with any anti-streptococcic serum the agglutinating action of his blood should be tested upon a number of streptococci which had been used to immunise animals for the production of curative serums. In this way, having found the streptococcus which was best agglutinated by the patient's blood, it would be possible to select the serum which would have the best effect upon the patient's malady.

Schenk[29] also tested his serums against a streptococcus which produced erysipelas in the rabbit's ear which had come from a patient suffering from phlegmon. With Marmorek's streptococcus he could not produce erysipelas. His serums which the reader will remember had, in my opinion, at least some slight power of protecting against the microbe used in their production were found to exert no influence whatever upon the course of erysipelas induced in the rabbit's ear by this other streptococcus. Thus his results are in harmony with those of Van de Velde and the other observers just quoted.

The verdict of these experimenters is unanimous; it may therefore be stated in reply to the question which stands at the head of this section that *the anti-streptococcic serum has been shown to be incapable of protecting against every streptococcus which is pathogenic to man.*

3. *Is the use of the anti streptococcic serum to be recommended at the present time for the treatment of human diseases?*—The serum has already been somewhat extensively used by medical practitioners, in some cases with apparently good results, in others without obvious effect. I do not intend to discuss the reports of these cases, for I think that it is very difficult to deduce the value of this treatment from the results of its application to human disease, for cases of streptococcal disease do not run any definite course. Who can say when the course of erysipelas will be stayed or when in puerperal fever the temperature will suddenly fall? These things occur without regularity and are apt to be put to the credit of any remedy which may have been used. Moreover, the rate of mortality of streptococcal diseases or of any group of streptococcal diseases is not known. The statistical method is therefore not applicable to the estimation of the worth of any remedy applied to them. We do not as a rule even know in any given case whether the disease is due to the streptococcus or to some other organism; and even if we could make sure of this it appears that it would still be necessary to decide what kind of streptococcus it was due to, before the right serum could be applied. We can therefore hope to gain but little evidence of any value from the experimental use of the serum in cases of human disease. The value of the remedy must be first clearly determined by experiments on animals. Until it has been shown beyond the possibility of doubt that the serum will protect them from, and cure them of, artificial streptococcal infections, until the opinion of experimental observers is unanimous in its favour, it is not yet ready for the physician. The opinion of experimental observers is by no means unanimous. The strength of the serum is so weak or so fugitive that in the hands of many good experimenters it has been found worthless. It has been shown that there is reason for thinking that the activity of the serum will have been already lost at the time when it may be reasonably expected to get into the hands of the practitioner. It has been shown that even when most active it will not protect against all streptococci, that its power of protecting even against the kind of streptococcus used in the immunisation of the animal which provided it does not approximate to the power of the anti-diphtheria serum against the toxin of the diphtheria bacillus. Much, therefore, remains to be done before the serum can be recommended to be used in cases of human disease.

The possibility of an anti-streptococcic serum has been demonstrated, but the remedy is yet in its infancy. For its infancy the laboratory is the proper nursery. It is to be

[25] Société de Biologie, 13 Mars, 24 Juillet, and 11 Déc., 1897, and 29 Jan. and 5 Mars, 1898.

[26] G. H. Lemoine: Streptocoque de l'Érysipèle influencé par le Sérum de Marmorek, Comptes Rendus de la Société de Biologie, 1897. Note sur le Streptocoque de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1898.

[27] Of serum A 5 c.c. protected against 5000 pathogenic doses of streptococcus A, but against only 100 of streptococcus P. The same dose of serum P protected against 2500 pathogenic doses of streptococcus P, but did not protect against streptococcus A, even in a dose which failed to kill a control.

[28] Bordet states that the agglutinating power is developed in anti-streptococcus serum only to a feeble degree.

[29] Loc. cit.

regretted that it has already been prematurely used in practice. For that to which the medical profession accords a too ready welcome it is apt to reject in disgust, and the reputation of the laboratory is thereby injured. Already the medical world does not sufficiently discriminate between a remedy of astounding value, such as the anti-diphtheritic serum, and the host of other anti-serums for syphilis, tubercle, cancer, &c., with the result that many practitioners still hesitate to use the former, regarding it merely as a fad of the day, and many lives are thus lost.

The anti-streptococcic serum cannot, then, be recommended in cases of human disease. In the meantime the physician may reasonably hope to obtain some day a specific remedy for these diseases, justified by the measure of success which the serum has already attained in the laboratory.

Additional References.—T. Bokenham: A Note on Streptococci and Streptococcus Antitoxin, *Brit. Med. Jour.*, 1896; a Note on the Mode of Preparing the Anti-streptococcus Serum, *Brit. Med. Jour.*, 1896. G. W. Cox: Streptococcus Infection and Marmorek's Serum, Journal of the American Medical Association, Chicago, 1897. Denys and Marchand: Bulletin de l'Académie Royale de Belgique, 1896. Koch and Petruschky: Beobachtungen über Erysipel-Impfungen am Menschen, Zeitschrift für Hygiene, Band xxiii. Méry and Lorraine: Streptocoques et Sérum de Marmorek, Comptes Rendus de la Société de Biologie, 1897. F. Neufeld: Treten im Menschlichen Blute nach überständener Streptokokken-Krankheit Antikörper auf? Deutsche Medicinische Wochenschrift, 1897. C. Parascandolo: Expériences Séro-therapeutiques contre les Infections par les Microbes Pyogènes et contre l'Erysipèle, Archives de Médecine Experimentelle, 1896. Eine neue Versuchreihe über die Serumtherapie bei Infektionen mit pyogenen Micro-organismus, mit dem Erysipel, Wiener Klinische Wochenschrift, 1897. Roger: Nouvelles Recherches sur le Streptocoque, Gazette Médicale de Paris, 1895, Presse Médicale de Paris, 1895. R. F. Weir: On the Use of the Anti-streptococcus Serum of Marmorek (review of results of treatment), New York Medical Journal, 1897.

Cambridge.

OSTEOTOMY OF THE FEMUR AS A TREATMENT FOR TUBERCULOUS DISEASE OF THE HIP IN ITS EARLY STAGES.[1]

BY R. F. TOBIN, F.R.C.S. IREL.,
SURGEON TO ST. VINCENT'S HOSPITAL, DUBLIN.

A DELICATE boy, aged ten years, the patient just exhibited, was admitted into St. Vincent's Hospital, Dublin, on Jan. 14th, 1898, suffering from well-marked tuberculous disease of the left hip. Flexion, adduction, and apparent shortening were very pronounced. Pain was complained of in the hip and knee. The joint was full and tender and apparently fixed, but under chloroform the head of the bone was moveable and could be pressed down into the acetabulum with obliteration of what was a striking feature in the case—prominence of the hip. On the 19th I performed an osteotomy of the femur, dividing the bone obliquely from the greater to the lesser trochanter and putting the limb straight. Subsequently to the operation the patient progressed favourably, there being no pain or rise of temperature. Five weeks after the operation the splint was removed. The fracture was found to be firmly united, the limb was in good position, the fulness in the joint was only just perceptible, and there was no pain. Since then he has been going about the wards wearing a Thomas's splint.

I wish also to call attention to three cases which were exhibited before the Section of Surgery of the Royal Academy of Medicine in Ireland last year. As I have published particulars of them I shall content myself with saying that they were all pronounced cases of tuberculous disease of the hip fulfilling conditions to be mentioned presently, that the patients in all the cases at times varying from six to nine months after operation walked well with straight limbs, and that one of the patients brought a letter from the dispensary medical officer, who had kindly sent him up for inspection, stating that on the day before he despatched him to Dublin the little patient had walked four miles to the consulting-rooms of the dispensary and was also about to walk the four miles back. In addition to these four patients there are two others who have lately gone to their homes in very good condition wearing Thomas's splints. I hope to show them to you before the end of the session. These constitute all the cases I have treated by osteotomy. In every instance complete union of the fracture has taken place within six weeks with—as is generally the case after osteotomies—little or no pain or other disturbance; in every instance the progress of the disease was arrested, as instanced by the subsidence of swelling and the non-formation of abscess; and in every instance a fairly rapid recovery has ensued and a straight, useful limb has either resulted or (in very recent cases) promises to result.

On the treatment adopted in these cases I beg to make the following remarks. No surgeon has, I feel sure, treated to their termination many cases of tuberculous disease of the hip—especially hospital cases—by the ordinary means of rest and extension without having often asked himself whether nothing further could be done to arrest the progress of the disease or to expedite the cure. It is unnecessary for me to appeal to statistics to show how tedious, as a rule, is the process of cure in this disease, how frequent is suppuration, and how indifferent is often the result. My discontent with the result of the present methods and certain considerations which I shall presently state induced me some time ago to submit some cases of morbus coxæ in an early stage to osteotomy of the femur on a level with the lesser trochanter. These are the cases referred to above.

I shall briefly state my reason for preferring this plan of treatment to the ordinary one by extension. I ask leave to exclude the question of excision, for, although it is the most thorough of all proceedings, it is, owing to its results, not in favour with many and space will not permit of its consideration. The cases which I consider suitable for this operation are those in which there are no indications of disintegration of the joint or of septic abscess or of the disease being situated in the acetabulum and in which, with the patient lying on his back and lordosis guarded against, the thigh on the affected side makes an angle of more than 30° with the bed. Given such a case I perform the following operation. I put the patient lying on his sound side with the affected limb drawn well in front of its fellow and supported at its upper third by a moist sandbag of suitable size and shape. In this position an assistant can by depressing the knee divert all concussion from the joint. Through an incision, of sufficient size to let one see things clearly, an osteotome is made to divide the bone pretty fully excepting a little of its under surface which is fractured. It does so obliquely, from the lower border of the great trochanter to the lesser trochanter. The patient is then turned on his back and while an assistant keeps the spine in contact with the table by fully flexing the sound thigh on the abdomen the affected one is brought down till the posterior surface of the knee is also in contact with the table. To guard against adduction or abduction both limbs are "dressed" (using the word in its military sense) by a straight rod resting on the anterior superior spines of the ilium. If there has been adduction in the case some abduction is introduced in the new position. The wound in the soft parts is partially closed and a gauze aseptic dressing is applied. The limbs are then fixed in a modified Bryant's splint and the patient is placed on a plank bed with a hair mattress.

The advantages I claim for this proceeding over the ordinary treatment by extension are as follows. It at once puts the joint and the limb in the best position for rest. The position of ease for the joint when inflamed is no doubt that which the component parts assume before other factors, such as the weight of the limb, come to disturb them or which they assume when the capsule is experimentally hyperdistended. For is not the position of greatest distension when a joint is full the position of greatest relaxation when it is empty and are not relaxation and ease synonymous in the cases under consideration? Now, this position is not one in which the leg is straight and it is well that the leg should be straight—first, because it is most useful so; and secondly, because when bent it is a drag and worry to the joint. The problem is, How shall we put the leg straight and allow the component parts of the joint to retain the position of ease? This can be done only by an osteotomy.

It is pretty generally assumed, even by surgeons who have to warn their nurses and "residents" against the many devices used by hospital patients to render extension by weight and pulley inoperative, that this extension always means rest. That it relieves pain where there is starting of the limbs we know, that it is better so to steady a flexed limb than to let it lie anyhow we also know, but that it

[1] A paper read before the Section of Surgery of the Royal Academy of Medicine in Ireland on March 4th, 1898.

means full rest is another question. Does it mean rest for the ligaments and capsules which are stretched? Does it favour the absorption of fluid or the various processes by which nature effects a cure? No. Take, for instance, adhesions. Does it favour them? There is no one who will not acknowledge that adhesions are often salutary. They limit inflammatory processes and they encapsule irritants, they give fixation to parts to which movement would be harmful. No; turn it how one will extension by weight and pulley leaves much to be desired.

My next point is that osteotomy brings on the scene a very beneficent factor. This is a question on which I particularly ask your opinion, for while this factor is for me a threadbare clinical experience its very existence is, I know, doubted by one eminent authority. Is it or is it not a fact that consequent on the section of bone there occurs in the neighbourhood of the point of section an alteration of the bone's economy which has, as a rule, a salutary effect on any tuberculous inflammation there existing? I say it is a fact. An occasion on which I saw this strikingly manifested was one where I proceeded to excise a knee in a case of long standing tuberculous disease without having got leave from the patient to perform an amputation should occasion require it. As soon as I had removed the articular surfaces I found that the disease extended so far in both bones that its removal would have made union impossible. I therefore contented myself with approximating and fixing the parts. Without further surgical interferences these bones in which for years a rarefying osteitis had been advancing and in which prior to operation there had been apparently no efforts at repair healed thoroughly and made for the patient a useful limb. But why weary the reader with every-day incidents?

On the fact which they teach—viz., that tuberculous bone tends to mend after being incised—Kirkpatrick, Stoker, Stokes, and Macnamara have founded methods of treatment which have yielded good results. Almost my first experience of the Royal Academy of Medicine in Ireland was a discussion in the Section of Surgery on this subject raised by interesting papers from Sir Thornley Stoker and Sir William Stokes. On that occasion the Section was almost unanimous in agreeing with their views. For myself I am in entire agreement with them and I have followed their advice in more than one case with good results. It is, however, a question how incision or resection of bone does its beneficent work. Some say by the drainage it affords. The explanation which occurs to me is rather something of this sort. Under ordinary circumstances there is in tuberculous bone little or no tendency to bony reparation, one sees no osteophytes thrown out or other indications of reactive vitality. Resection of the bone excites this vitality. It calls upon it to put forth its whole strength for the repair of the injury. There is a new *régime* before which the tuberculous process has to yield—a *régime* which in the case of a fracture passing from the great to the lesser trochanter must extend somewhat to the neck and head of the femur. Is it not the case that in examining a specimen of recently united fracture in any bone one sees a more or less sclerosed area extending well beyond the scene of injury and that this condition is the very reverse of that which one meets with in spreading tuberculous disease? Anyhow, whatever the explanation, the clinical fact remains and the osteotomy I suggest gives a large number of patients with tuberculous hips the benefit of it, since most observers are in agreement that in the hip the usual situation of primary trouble is at the lower part of the neck of the femur just outside the epiphyseal cartilage.

The most serious objection which I have seen urged against this plan of treatment is by Mr. Owen in the "Year-book of Treatment," to the effect that either non-union will follow the osteotomy or that union will take place at such an angle that the inevitable shortening becomes greatly intensified. With these objections experience must deal. As yet it is altogether favourable to the operation, but of course six cases are too few to prove anything. It should, in considering the danger of non-union, be remembered that after straightening the limb the fragments still in apposition are not further disturbed, the soft parts are not torn and the limb is at once placed in a splint. The same consideration—i.e., the fact that the force which breaks the bone does not displace the fragments—taken in conjunction with the shortness of the upper fragment, will explain the very slight degree of shortening which has as yet occurred in these cases. As regards treatment, when the patient is up and about I hold by Thomas's splint. I use it from the outset with patients who present themselves early, for it is easily fitted to a fairly straight limb, but for straightening a flexed and adducted limb I prefer an osteotomy. The splint should be worn for a considerable time. No treatment can give quickly to a diseased hip the strength necessary to bear the weight of the body. One way may be less slow than another, but all must be slow. A want of consideration of this point may cause new methods to be unjustly tried. It should not, however, make the surgeon rest content with things as they are. No one will convince me that the treatment of hip-joint disease has reached its highest development. Its present position is one calling loudly for the attention of the general surgeon, for since the surgeon cannot in general hospitals detain hip cases as long as is desirable it is specially incumbent on him to do as much as possible for them during the period of their stay and to discharge them in as forward a state as possible.

Dublin.

THE ADMINISTRATION OF LARGE DOSES OF GUAIACOL IN PHTHISIS.

BY J. EDWARD SQUIRE, M.D., M.R.C.P. LOND., D.P.H. CAMB.,

PHYSICIAN TO THE NORTH LONDON HOSPITAL FOR CONSUMPTION.

THE accompanying report, which has been drawn up for me by Mr. C. Stanford Read, the resident medical officer at the North London Hospital for Consumption, is, I think, sufficiently interesting to publish. It is, of course, incomplete, as the observations are still in progress; but it establishes the fact that patients can take pure liquid guaiacol in doses of one drachm three times daily (180 minims in the day), not only without toxic effects, but apparently with decided benefit. Creosote has been given in doses of from 160 to 180 minims a day and carbonate of guaiacol in doses of from 45 to 60 grains three times a day, but I know of no record of guaiacol itself approaching these quantities. The amount of guaiacol in creasote is somewhat indefinite; the carbonate is said to contain about 91·5 per cent. of pure guaiacol. A drachm of carbonate would thus be equal to about 55 grains of pure guaiacol. The liquid guaiacol is not quite pure, so that the amount of guaiacol taken will be much the same with a similar dosage of the carbonate or of the liquid guaiacol. The latter has the advantage of being less expensive. The caustic action of uncombined guaiacol on the mucous membrane and some fear of toxic effects have prevented the prescribing of full doses of this drug, but it will be seen from the following report that with due care in administration most patients can safely take half a drachm, or even one drachm, three times a day. The drug was given in capsules containing 5 minims each, or in emulsion with glycerine and tincture of orange peel, and was always followed by a drink of milk. The doses were taken after meals. I have not attempted to exceed the dose of 60 minims, or to give more than 180 minims in the twenty-four hours, but some of the patients have continued taking this amount for several weeks with apparent benefit. One patient who has recently been discharged after taking this quantity for three weeks gained about 1½ st. during the three and a half months that he was in hospital and left in a condition which might well be described as "cured." Short notes of this case will be found at the end of this report. It has been stated[1] that after large doses of guaiacol the urine gives a precipitate with hydrochloric acid. I am unable to endorse this statement, for the urine of patients taking large doses of the drug has not given any precipitate with hydrochloric acid in those cases which I have tested.

Report on the treatment of phthisis by guaiacol, by Mr. C. STANFORD READ.—Guaiacol has often been administered in the North London Hospital for Consumption in certain cases in the past, usually in capsules of 5 minims each, after the three principal meals of the day. This has hitherto been done in cavitation cases accompanied by profuse or fœtid expectoration with very good results as far as this one particular symptom went. Of late, at the suggestion of Dr. Squire, we have pushed the

[1] Eschle. Quoted by Dr. R. Seifert, THE LANCET, Nov. 14th, 1896.

drug in all stages of the disease to see how much patients could take without ill effect and what good results, if any, would follow. In many cases after starting the treatment one has been obliged to cease the administration of the drug as other symptoms or complications (not connected with the guaiacol) have arisen necessitating its withdrawal. We have nevertheless 40 patients who have taken the drug: 6 cases took 60 minims, 2 cases took 50 minims, 4 cases took 40 minims, 6 cases took 30 minims, 10 cases took 20 minims, 6 cases took 15 minims, and 6 cases took 10 minims three times a day after food. Some of these are still in hospital and are gradually increasing the dose. The drug was first administered in capsules, each containing 5 minims, but later was given in an emulsion with glycerine and tincture of orange peel, many patients taking it partly in one form and partly the other. A good few found difficulty in swallowing many capsules; others, again, preferred them much to the acrid liquid; in either case they would drink about half a cupful of milk with the guaiacol, which seemed to greatly add to its being borne well. The dose of 5 minims was at first usually increased by 5 minims every third day, and later more rapidly, till 60 minims were reached. Only one patient felt any ill effects; he, when taking 20 minims three times a day, complained of much stomachic and abdominal pain with a sinking sensation in the epigastrium, passing a small quantity of blood by the bowel. The guaiacol was stopped, but resumed later with 10-minim doses without ill effect. 26 were cavitation cases and in these the diminution in the amount of expectoration was very marked, beginning to diminish early in the administration of the drug. Some patients whose expectoration was very profuse on admission would later only cough up little "pellets" of sputum first thing in the morning and none after. There has been no marked effect on the temperature observed when guaiacol has superseded other drugs, but in those taking it continually a steady lowering of the evening temperature has been commonly noticed. 35 of the cases put on weight, most of them well, one putting on 19 lb. in twelve weeks. There was not, as far as I could make out, any definite relation between the increase in weight and the proportional increase of the doses. The cough was in no special way affected that I could see, but night sweats in nearly all cases diminished and then disappeared in a very short space of time. 12 cases had laryngeal phthisis as well, but as these cases all had local treatment also one cannot say whether the guaiacol had any special effect or no. The patients complained a good deal either of the emulsion burning their throat or of their difficulty in swallowing the capsules, but by dint of perseverance combined with faith in the drug they managed very well after a time. The effect of the drug, if any, on the number, &c, of the bacilli in the sputum is now being observed.

The following is an abstract of the case referred to in the former part of this paper. The patient was a man aged twenty-four years. He was admitted to hospital on Nov. 18th, 1897, complaining of much weakness, sickness, and cough. The patient had been working harder than usual of late and had got run down. The first symptom was hæmoptysis (one pint) six weeks before admission. Cough with weakness and wasting gradually supervened. On admission he was found to be a cachectic pale man. He was 5 ft. 4½ in. in height and weighed 8 st. 13 lb. 6 oz. He had very profuse night sweats and much sickness; the cough was not very troublesome; he had muco-purulent expectoration. With regard to physical signs, there was very slight impairment of the percussion note at the left apex, with a few sharp "clicks" at the end of inspiration. He had continuous temperature of about 102·4° F. He was treated with an acid tonic and complete rest in bed. On Nov. 22nd the acid was omitted; quinine and digitalis were given. On the 25th the temperature was gradually falling. He was still sweating much at night. On Dec. 5th the temperature had been remittent, but was continuously high again and was going up. The patient was sick a good deal. Large râles were now heard in the second, third, and fourth spaces in the left front and down the left back commencing from the apex of the lower lobe. On the 10th 2 minims of guaiacol three times a day after food were ordered. He had gradually lost weight up to now. He was out of bed for an hour and could hardly stand. On Jan. 3rd, 1898, the patient was taking 15 minims of guaiacol three times a day. Fine râles were heard in the left front with some crepitations below. There were a few crepitations at the base in front. Râles heard at the back were much smaller. The temperature kept about 99°. He had put on 8 lb. in weight since getting up (Dec. 10th). On the 31st the râles were gradually drying up. He was taking 35 minims of guaiacol three times a day. He had put on 1 st. in weight. His temperature was normal. He complained of nothing except cough and expectoration the first thing in the morning. From Feb. 15th to 17th there was pain in the left base, friction was heard, and the chest was strapped. 1 drachm of guaiacol three times a day, all in capsules, was given with no ill-effects. His temperature was normal. He was 1 st. 5 lb. heavier than on Dec. 10th. On March 7th the patient went out. He expressed himself as perfectly well and strong. He had taken 1 drachm of guaiacol thrice daily up to now. He had gained 22 lb. in weight since Dec. 10th, when he commenced guaiacol. There were no tubercle bacilli in the sputa when he left the hospital.

Harley-street, W.

A THEORY OF NERVOUS CONDUCTION.

BY W. S. HEDLEY, M.D. EDIN., M.R.C.S. ENG.

IN 1889 it was observed by Professor Oliver Lodge that two knobs sufficiently close together could, when a spar passed between them, actually cohere and, with a single voltaic cell in circuit, conduct "an ordinary bell-ringing current." Shortly afterwards M. Edouard Branly[1] found that a tube of metallic filings enormously diminished its resistance when exposed to the neighbourhood of a Leyden jar or coil sparks. An arrangement of this kind proved to be a sensitive detector of radiation and such discontinuous conductors came to be called "coherers." The cohesion brought about by electrical means could be broken down by mechanical means. Thus sound-vibration or slight taps would restore the contact to its original condition of high resistance.

In a paper presented to the Académie des Sciences on Dec. 27th last M. Branly suggests certain points of possible resemblance between coherer action and the conductivity of the nerves for nervous impulses. He points out that in reality there is no very clear line of demarcation between continuous and discontinuous conductors; it is rather a question of degree. Passing from artificial to "natural" conductors he argues that the use of the term "nervous current" since the earliest days of physiological research seems to point to some recognised resemblance between nervous and electrical conduction. Until recently it was thought that the various elements of the nervous system were continuous. Now, since the advent of that trinity in unity known as the neurone the nervous system may be regarded as composed of discontinuous elements—i.e., of elements contiguous but not continuous. It thus becomes possible to regard the neurone as the counterpart of the metallic granule of certain discontinuous conductors. As a blow will weaken and even abolish the conducting power in the latter, so traumatism may produce anæsthesia and hysterical paralysis—the latter due to a suppression of transmission, sensory or motor, of the nervous influence consequent on a defective contiguity of nerve elements. Again, as the oscillation of electrical discharges establishes the conductivity of discontinous conductors, so it is known that such discharges act efficiently in the cure of paralysis and hysterical anæsthesia. The possibility, therefore, suggests itself that in both cases the effect is determined by bringing about the contiguity of the elements of the conductor or some modification equivalent to contiguity. The parallelism between the action of a blow and of sparks upon discontinuous conductors and upon the hysterical nervous system may be carried further in the susceptibility common to both of reacting under a feeble stimulus when once a powerful action is produced as a first effect—a condition which M. Branly has referred to in a former note to the Academy as "sensibilisation par un premier effet" (Dec. 6th, 1897). The high frequency discharges and the electric oscillations which accompany them are especially apt to make discontinuous conductors conduct, and it is such discharges that have been shown by d'Arsonval to have

[1] Comptes Rendus, vol. cxl., p. 785, and vol. cxli., p. 90.

therapeutic effects in diseases due to perverted nutrition. If the latter affections are of nervous origin and are due to imperfect transmission of the nervous influence it is permissible to suggest that electric oscillations act by re-establishing in the nerve a contiguity which had become insufficient. The same writer has recently shown that continuous currents of a sufficient electro-motive force produce in discontinuous conductors the same effects as discharges at a distance. It would be interesting, he suggests, to inquire if the mode of action of continuous currents in diseases of the nervous system where they have proved useful presents features similar to those which occur in discontinuous conductors. It is not claimed by M. Branly that anything more than a mere analogy has been shown, but he thinks it possible that such considerations may prove a useful guide in determining the modality in which electricity is to be employed in a given case, and perhaps furnish the electro-therapeutist with a good working hypothesis.

So far it is evident that such speculations fall very far short of this. All that can be claimed is to have made out a case for further inquiry. Such a line of investigation has already been foreshadowed in an article by me which was published in THE LANCET, May 4th, 1895, and in which the following sentence occurs: "It seems even conceivable that other histological arrangements—e.g., those nerve fibrils which conduct yet only touch and do not anastomose, those motor nerve endings which are only in contact with the sarcous substance; indeed, any conducting arrangement in the animal body which may be classed as a 'bad contact'—may constitute the physiological analogue of what would be electrically known as 'a coherer.'"

Mansfield-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF HYDATID OF THE GALL-BLADDER.

BY FREDERICK PAGE, M.D.EDIN., M.R.C.S. ENG.,
SURGEON TO THE NEWCASTLE-UPON-TYNE ROYAL INFIRMARY.

EARLY last December a man between fifty and sixty years of age was sent to me for surgical treatment by Mr. Martin of Darlington with the following history. For the last five years the patient, who up to that time had always had excellent health, suffered from occasional attacks of pain in the epigastric region accompanied by vomiting—"bilious attacks," as he called them. Last summer these attacks became more severe and occurred more frequently. About October he began to lose flesh and the pain and vomiting were almost continuously present. On Nov. 24th he was examined by Mr. Martin, who found a tumour of some size connected with the under surface of the liver which he took to be the dilated gall-bladder. He was sent to me early in December. On Dec. 9th the abdomen was opened in the right semilunar line and the gall-bladder was exposed. Some twelve ounces of clear colourless fluid were drawn off by aspiration and a stone searched for in the cystic duct. None was found and the gall-bladder was incised. Through the incision a collapsed hydatid cyst at once protruded. This was removed, but not in one piece. No bile escaped. The margin of the incision into the gall-bladder was then sutured to the skin and the abdominal wound was closed. For eleven days the temperature continued to be normal and all went well, a good deal of clear fluid escaping from the gall-bladder quite unstained by bile. On the 23rd the temperature rose to 102° F. and there was an unpleasant smell about the dressings. On examining the sinus into the gall-bladder its orifice was found to be plugged firmly by a piece of decomposed hydatid cyst, upon the removal of which a considerable quantity of bile escaped. From this time till the middle of February bile continued to flow, at first so copiously that it was necessary to change the saturated dressings twice and sometimes three times daily. On Jan. 12th the patient was allowed to return to his home at Darlington very much improved and rapidly regaining his health and strength. The sinus closed in February. He is now quite well.

In this case the gall-bladder was occupied by a single hydatid cyst containing no daughter cysts. A portion of the cyst extending into the cystic duct had evidently not been removed at the time of operation. When this retained portion separated and became lodged in the sinus bile flowed into and distended the gall-bladder, by this time considerably reduced in size, escaping through the sinus as soon as its plugged orifice was freed.

Newcastle-upon-Tyne.

DOUBLE PHLEGMASIA FOLLOWED BY GANGRENE OF THE RIGHT FOOT.

BY THOMAS FISHER, M.R.C.S. ENG., L.S.A.,
MEDICAL OFFICER OF HEALTH OF GARSTANG.

A WOMAN, aged forty-four years, was confined of her fifteenth child on Nov. 26th, 1895. The confinement was very quick, the child being born on my arrival, but there was a retained placenta with severe post-partum hæmorrhage, the patient being in a very collapsed condition; there were great pallor, some delirium with dilated pupils, rapid breathing, and scarcely perceptible pulse. I dropped the head and raised the limbs, administered stimulants which were swallowed with difficulty, applied ammonia to the nostrils, and injected brandy subcutaneously. The condition of the patient was so serious that I did not deem it advisable to explore the uterus per vaginam until some restoration had taken place, but I simply directed my attention to external expression and injected ergotin. The effect of the treatment in about an hour's time was to restore the patient somewhat and I determined on removal of the placenta. Upon vaginal examination I found marked hour-glass contraction of the uterus. After careful manipulation I removed the placenta, carefully following the contraction of the uterus with the left hand on the abdomen. The condition of the patient continued very grave, but there was no further hæmorrhage. Brandy and beaten egg-and-milk which were given were returned by the patient. Up to the third day the patient remained extremely exhausted, with a subnormal temperature and pulse. On the fourth day some tenderness of the abdomen was complained of and also some pain in the groins; there was offensive diarrhœa and the temperature was 103° F. Up to the eighth day these symptoms continued and both limbs began to show the ordinary signs of phlegmasia, the right limb more markedly, it being very tense and shining with marked tenderness along the femoral and saphenous veins; the lymphatics were also very visibly irritated. The constitutional symptoms were those of marked "adynamia," the pulse being from 120 to 130, with tongue dry and brown, thirst and some delirium, offensive diarrhœa and lochial discharge, the temperature varying from 102° to 104°. On the twelfth day the right limb presented several bullæ and there was distinct œdema, the foot below the ankle being of an ashen-red colour and the toes blue. The general sensibility of the limb was lessened but more especially in the foot. Up to the twentieth day the condition of the patient was exceedingly grave, but nourishment and stimulants, with quinine, were freely taken and the offensive diarrhœa began to subside, the limb became less swollen, and there was an evident line of demarcation at the base of the toes. Both limbs during this period were elevated, wrapped in cotton wool and dressed with boracic powder. For the next three weeks the patient remained very weak; gradually the symptoms of fever subsided, the offensive diarrhœa stopped, and the condition of the patient was much improved and more hopeful. I now decided on removal of the toes, the operation being successful and the wound healing well. The foot was still slightly œdematous; this was in January, 1896. The patient was soon about on crutches and was in a short period of time able to attend to some of her household duties. In February, 1897, some tenderness and swelling appeared under the surface of the metatarsal bone of the big toe; this being opened up there was evident necrosis. Early in March with the assistance of Dr. G. Gibson this portion of diseased bone was successfully removed. In March, 1898, the condition of the foot was still œdematous, the blood-vessels

evidently being unequal to their work, but the patient is now able to perform the greater part of her household duties.

Remarks.—This case is interesting, particularly showing the very grave conditions through which a patient may pass and yet recover, and it would tend to show the connexion of post-partum hæmorrhage with phlegmasia. In a large majority of cases of phlegmasia which have come under my notice it has been associated with post-partum hæmorrhage. I might incidentally mention that this patient had had hour-glass contraction of the uterus three times and that she had borne two children with double hare lip.

Garstang.

VENESECTION IN APOPLEXY.

By COLIN CAMPBELL, M.R.C.S. ENG., L.R.C.P. IREL.

THE very satisfactory result following venesection will perhaps justify my recording the following case.

On Feb. 2nd, 1898, at 5 P.M., I was called to see a man, aged sixty-five years, who had been found insensible, ten minutes before, in his sitting-room. It was at once evident that he had a serious apoplectic seizure. He was breathing stertorously, his pupils were unevenly contracted (the right was smaller than the left), the eyeballs oscillated, his left arm lay motionless, whilst his right arm moved in short spasmodic jerks. Violent cardiac action was evident through two or three shirts and without baring the chest and without a stethoscope a loud mitral systolic murmur was easily heard. Without delay I opened the left median basilic vein about one-third of an inch. Almost immediately a violent convulsion occurred (during the convulsion the blood "spurted" quite three feet), and after the convulsion, as the blood flowed in full stream, one noticed the respirations becoming quieter, the stertor disappearing, and the big swollen veins of the neck (very evident at first) assuming a normal appearance. Then came a deep sigh and as over thirty ounces had been drawn I closed the vein. A deep sleep followed and in four hours he awoke, conscious. The recovery of the patient has since been uninterrupted and it is worthy of note that the cardiac murmur has for the time disappeared. The patient's mother died from apoplexy at the age of fifty-six years and a sister at the age of fifty-eight years.

Saddleworth.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

A CASE OF CHELOID.

(Under the care of Mr. GOLDING-BIRD.)

MARKED cases of cheloid are always worthy of being recorded as being likely to assist us in arriving at a more exact knowledge of its etiology. Many writers are of opinion that in America negroes are especially liable to this disease[1] and the idea seems well founded. The fact that it is especially common in septic wounds is very suggestive of its being in one way or another microbic in origin, but it may certainly occur after aseptic operations. The distinction often made between "idiopathic" and "scar" cheloid is probably quite artificial, the idiopathic variety developing from some small unnoticed scar. The condition was first described by Alibert, and is often called by his name.

A married woman, forty-five years of age, was admitted into Guy's Hospital in November, 1897. She was in appearance a particularly fresh-looking and healthy country-woman. There was no history of syphilis. Both her parents had died from "consumption," but her two children were perfectly healthy. In June, 1896, she fell and struck the right buttock a hand's breadth behind the top of the great trochanter against the corner of a table. Soon after this she noticed a small, moveable, nut-like tumour at the seat of the blow; it had never disappeared but had steadily grown. Lately its growth had been more rapid than at first. It caused a "dragging pain" and backache and was especially painful when pressure was put upon it in sitting. On examination, to the eye there was nothing but a slight puckering of the skin which looked also somewhat bluish and congested. Palpation showed a very hard firm tumour rounded in outline; it measured two inches in diameter. It was flattened or even cupped on the surface and was adherent to the skin, more particularly at the centre where the skin was also puckered; but it was moveable on the deeper parts. It did not seem to be encapsuled yet it was very sharply circumscribed and the edge was rounded. The shape of the tumour was very similar to that of an old "cupped" blood-clot preserved in spirit; or a magnified red blood corpuscle. On one side of the swelling were two small nodules which were connected with it; they were equally hard. The mass was clearly moveable over the gluteus maximus, but laterally it moved with the subcutaneous fat. The swelling was diagnosed as a fibroma or fibro-sarcoma; but many other opinions were expressed as to its nature by those who saw it. Among the diagnoses were "scirrhus," "old hæmatoma," "sebaceous cyst," "gumma," and "bursa." The growth was removed with its outstanding nodules and the skin over it; it reached as deeply as, but did not involve the fascia over, the gluteus maximus. The wound healed by primary union and the patient left the hospital in December, 1897. On section the tumour cut like the hardest scirrhus, and as by scraping a milky juice was obtained, the resemblance was even closer; but microscopical examination showed that the tumour was composed chiefly of white fibrous tissue, freely studded with numerous tuberculous giant cell systems.

Remarks by Mr. GOLDING-BIRD.—I think the correct explanation of the formation of this swelling is as follows. As a result of the injury there was a subcutaneous laceration of tissue with slight hæmorrhage; the torn tissue cicatrised and became cheloid and at some time or other of the process the new tissue became inoculated with the tubercle bacillus. The cheloid or fibrous thickening involved the subcutaneous tissue, while the skin over it retained its normal condition except that it was adherent. We are so little acquainted with the etiology of scar cheloid that I may mention a case which appears to point towards a possible special poison (? microbic) as giving rise to cheloid. In the spring of 1896 I saw an English officer, twenty-five years of age, who had been wounded in the service of the British Central Africa Administration in the neighbourhood of Zomba. He had received two musket slugs in the right arm, the lower passing through and smashing the lower fourth of the humerus, the upper passing through the soft parts near the insertion of the deltoid. He had been attended by the resident surgeon, Dr. Wordsworth Poole, but fifteen hours elapsed before the wound could be antiseptically dressed. In less than a month three of the wounds had healed; the fourth had almost closed. He then returned to England and I saw him in March, 1896. The wounds were all healed and the arm was perfectly sound and useful, but each scar had developed a thick and characteristic cheloid, in each case of nearly the size of a walnut. About a year before I saw this case Dr. Poole had written to me as follows: "There is a peculiarity about the natives here; nearly all their wounds turn to cheloid when they heal, and they make use of this peculiarity by cutting their faces for tribal marks or from an idea of beauty, and the wounds leave wheals and unsightly lumps." The fact of the officer wounded in the same district developing cheloid is at least suggestive of the influence of environment. In another case under my care a cheloid developed, although the wound healed by first intention, and it was never in any way septic. The patient was a schoolboy, twelve years old, and in February, 1895, I operated on him for torticollis by the open method, dividing the sterno-mastoid at its lower end. The skin wound was united carefully and a "sealed" iodoform and collodion dressing was applied. When the dressing was removed on the third day on account of discomfort the area (1½ in. by 2 in.) covered by the dressing was blistered. Boracic acid ointment was then used and within a month evident thickening of the skin and subcutaneous tissue had developed. This went on to the formation of a characteristic cheloid like an ivory plaque with

[1] J. F. Binnie, St. Louis Clinique, September, 1894.

dendritic blood-vessels on its surface. It never exceeded the size of the original blister, but increased in thickness until it reached about a quarter of an inch. Although in no way really harmful to the lad a year later he was refused for the navy, for which he had just begun to be educated. At present the cheloid is rapidly disappearing and the skin is becoming supple again, though the injection of the surface is still well marked. It is difficult to see any reason why cheloid should have developed in this case rather than in any other apart from the intense irritation of the collodion dressing. His family history was very good and he himself was very sturdily built.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Neuralgia treated by the Injection of Osmic Acid.—Multiple Venous Angeiomata.—Imperfect Closure of the Septum Ventriculorum.—Inoperable Sarcoma treated by Coley's Fluid.—Intracapsular Fracture of the Neck of the Femur in a Boy.

A CLINICAL meeting of this society was held on April 4th, Mr. J. H. MORGAN, Vice-President, being in the chair.

Mr. G. R. TURNER showed a case of Neuralgia of the Right Fifth Nerve treated successfully by the Injection of Osmic Acid. The patient, a married woman, aged thirty-three years, had been the subject of neuralgia for two years affecting the right fifth nerve for which she had received all kinds of medical treatment and had had various teeth extracted. The pain originally involved the infra-orbital nerve but had extended to the other divisions of the fifth and been accompanied by discharge from the right nostril. Nothing abnormal could be detected in connexion with the nasal fossæ or the antrum of Highmore. The pain was so excessive that she had threatened to destroy herself. Mr. Turner, at Mr. Albert's suggestion, injected 15 minims of a 1 per cent. aqueous solution of osmic acid into the infra-orbital nerve in January, 1898, following the examples of Neuber, Eulenberg, and Franck. In January, 1898, the injection was passed by means of an ordinary hypodermic syringe into the infra-orbital canal and for a week or ten days afterwards but little improvement followed; indeed, the injection was followed by considerable pain and tenderness. When this passed away the pain did not return and the patient has now for some two months been free from her old trouble. It is supposed that the nerve fibres are destroyed by the action of the acid and an aqueous solution is said to be more efficacious than a glycerine one.—Mr. MORGAN said that so far as he knew this was the first time that a successful case of this kind had been shown in this country. The method certainly was less formidable than other surgical procedures for dealing with the nerves. Probably the osmic acid had a direct effect on the nerve fibres.—Mr. J. P. RICHARDS thought that it was not likely that the osmic acid had penetrated the tough neurilemma of the nerve and that the relief to pain was due to transitory traumatism.

Dr. F. J. SMITH showed a case of Multiple Venous Angeiomata. The patient, a woman, aged fifty years, was admitted into the London Hospital in February, 1898. On admission a number of venous varicosities were observed, chiefly on the face and upper part of the trunk, most of which had a firm consistency when pinched up with the skin and did not disappear entirely on pressure. They varied in size from that of a pea to that of a small bean. On the right side of the bridge of the nose was a vascular pulsating tumour which could be entirely obliterated by pressure and filled up again with two or three pulsations. The veins of the right leg and thigh were very varicose on admission and those of the left leg varicose, but not so extensively. Both labia majora were much enlarged, with an extensive varicose condition of the veins. The situations of the chief of these tumours were as follows: (1) right side of the bridge of the nose; (2) just to the right and below the angle of the mouth; (3) on the dorsum and left edge of the tongue; (4) on the soft palate and inside the lower lip and left side of the cheek; (5) one in the middle line of the neck and some smaller ones below and to the right of it; (6) on the right shoulder; (7) right axilla; and (8) right nipple, and also a few others in various positions. On admission there were no physical signs of disease in any of the internal organs. The patient said that until seven months before admission she was perfectly well and had no varicose veins even in the legs. About that time she noticed a small, painful spot on the right side of the nose, which came up like a small red pimple; soon after this other red spots appeared on the back and shoulder; after a day or two these turned blue and have not altered in appearance since that time. She is a widow and has had ten children, of whom four are now alive; between the last two she had five miscarriages. Dr. Smith was inclined to think that there was a sarcomatous element in the case.—Dr. MAGUIRE remarked that there were certain cases of recurrent fibromata with formation of vessels which were not of an embryonic character which presented very similar physical characteristics to those seen in Dr. Smith's patient. The tumour of the nose, however, seemed more like a hyperplasia of veins.—Mr. BATTLE thought that it was possible that all the swellings were not of the same nature. Those in the legs might be true varicose veins, while those of the tongue were more like sarcomata. He suggested that they should be microscopically reported on.

Dr. ROBERT MAGUIRE showed a case of Imperfect Closure of the Septum Ventriculorum. The patient, a man, aged twenty-seven years, presented himself at St. Mary's Hospital suffering from acne. In the course of the usual examination he was found to have a systolic murmur, heard over almost all parts of the chest, but best of all along the line of the interventricular septum, and especially about 1 in. above the level of the apex beat. The murmur diminished in intensity very rapidly when the stethoscope left the line of the septum, though sometimes in this patient it was heard with undiminished intensity over the whole of the right ventricle. The murmur presented the characters which Dr. Maguire had on a former occasion before the society asserted to be characteristic of a deficiency in the ventricular septum. Such a condition may be due to an intra-uterine endocarditis causing stenosis of the pulmonary orifice, which would so raise the pressure in the right ventricle at the time when the septum was forming as to prevent its due closure, or, again, it may be due to a lack of developmental power during the formation of the septum. The latter was probably the case in the patient shown, since the murmur in its intensity did not follow the course of the pulmonary artery towards the left and there was no enlargement of the right ventricle. The patient had often been noticed to be "blue" when a child, but now had no cyanosis though he easily got out of breath on exertion. The absence of cyanosis was explained by the fact that the pressure in the left ventricle is so much greater than that in the right ventricle, that admixture of blood only takes place in the right ventricle, and therefore there is no admixture of carbonised blood with that of the aortic circulation. Such admixture does take place in such cases when bronchitis or pneumonia increases the tension in the right ventricle. Deficiency of the septum is by far the most common of congenital affections of the heart which cause signs and it is important to diagnose it, since in spite of its marked physical signs it need not necessarily interfere greatly with the future life of the patient.—Dr. SMITH was not quite convinced that there was a congenital malformation, as in that case there would have been more derangement of the circulation. He thought that the murmur was more widely heard than had been described, being loudly heard at the apex as well as at the epigastric notch. He mentioned an anomalous case of extreme stenosis of the pulmonary artery with imperfection of the septum in which there had been no murmur during life. He thought that the mischief in this case was most likely at the mitral orifice.—Dr. CHAPMAN observed that the mother of the patient was rheumatic. He had occasionally met with cases in which there was proved to be stenosis of the pulmonary valve without cyanosis during life.—Mr. MORGAN remarked on the frequent association of cardiac malformations with external abnormalities.—Dr. MAGUIRE, in reply, said that the intensity and conduction of the murmur varied from time to time and appeared to depend on the force of the beats. There was abundant post-mortem evidence that there might be pulmonary stenosis with deficiency of the ventricular septum without symptoms during life. He quoted a case of this kind in which a boy survived to the age of fourteen years, having had a murmur for years but no cyanosis. At the necropsy it was found that the interventricular septum was almost absent and yet there had been no cyanosis during life. He thought that this was possibly due to the

pulmonary stenosis causing a great rise of pressure in the right ventricle so that the pressure was as high on the right as on the left side, and that therefore blood did not pass through the orifice.

Mr. W. H. BATTLE, showed a case illustrating the advantage of Coley's Fluid in the Treatment of Inoperable Tumours. The patient, a man, aged thirty years, was admitted under the care of Mr. MacKellar into St. Thomas's Hospital on Dec. 21st, 1897. The patient, who was muscular and well-developed, had suffered from syphilis six years before. Between three and four months before admission he noticed a lump under his right arm, accompanied by pain and shortly afterwards other swellings. Then supervened difficulty in moving his arm and the arm gradually became more swollen. About two weeks before admission he noticed a swelling above the right clavicle and another over the right side of the sternum. The right arm was swollen and œdematous; the superficial veins in the upper part were dilated and tortuous. The shoulder was somewhat raised and the arm was held a little away from the side. There were marked fulness under the right clavicle and a definite tumour of the size of a walnut over the right side of the sternum at the junction of the fourth costal cartilage. There was also abnormal swelling above the right clavicle. The swelling below the clavicle was caused by the pushing forward of the pectoralis major by an elastic tumour of considerable size and irregular shape. This was fixed to the deeper parts but did not invade the pectoralis. The sternal swelling fluctuated and was adherent to the bone, but not suppurating, though there was some redness of the skin. Below the nipple were two small nodules growing in the skin. Above the clavicle was a growth, somewhat flattened from before backwards and adherent to the bone; it was of about the size of a hen's egg. In the axilla were numerous enlarged glands of varying size, one or two as large as Tangerine oranges, others smaller and harder. There was an irregular red rash over the front of the legs with squamous surface which he had noticed for three weeks. His general condition was good. Iodide of potassium having failed to cause any diminution pieces were removed from the sternal and subclavicular growths and examined by Mr. Shattock and Dr. Jenner, who reported that both were sections from a fibro-sarcoma and contained giant cells. It was therefore determined to try injections of Coley's fluid. Half-minim doses were given at first every other day from Jan. 21st till March 21st (iodide of potassium mixture being continued till March 6th, when it was stopped) and from that date until the present time the injection had been given of one minim every other day. The result was that he had much improved in general health and presented for examination only two swellings, one over the site of the sternal tumour and the other under the clavicle. The former was about one-third its former size and the other was now only a flat limited hardness in the costo-coracoid membrane above the pectoralis minor measuring about 1½ in. by 1¼ in. A remarkable feature in the case had been the absence of any reaction, there having been a uniformly normal rate of temperature since the treatment was commenced. The injections were given into the arm and not into the tumour.

Mr. W. H. BATTLE also read notes of a case of Intracapsular Fracture of the Neck of the Femur in a Boy. On Dec. 26th, 1897, the patient, a lad, sixteen years of age, had three falls; he walked home in the evening and apparently suffered no inconvenience beyond a slight stiffness in the hip which caused him to limp slightly. The lameness continued until Jan. 6th, when he had another fall and was carried home, being quite unable to walk. He was in great pain every time he moved his leg. On admission there was great pain on attempted movement of the hip. The foot was everted with nearly three-quarters of an inch of shortening. The thigh was kept partly flexed and rigid. Later movement improved, but was accompanied by a very marked crunching sound. Dr. Barry Blacker had since taken a skiagram which shows the effects of the injury. The head of the bone was shown lying below and to the inner side of the neck.

EPIDEMIOLOGICAL SOCIETY.

Milk-borne Enteric Fever.

A MEETING of this society was held on March 18th, Professor J. LANE NOTTER, President, being in the chair.

Dr. D. S. DAVIES, medical officer of health of Bristol, read a paper on the Outbreak of Milk-borne Enteric Fever in Clifton in 1897, in which he considered not only the distribution of the cases which he had already reported in the medical journals, but the incidence and character of the attacks and other facts that had since come to light. The history was shortly this: a sewage polluted brook passed through a farm belonging to Mr. X, where the unboiled water of a well, close to, and evidently fed from, the brook, was used for washing the cans. Milk from this farm was supplied to 57 houses in Clifton and Hotwells, in 41 of which 101 cases of enteric fever occurred and 33 in 20 other houses obtaining their milk from a shop belonging to the farmer. A second supply, originally pure but mixed before entering the city with milk from the first, was distributed to 39 houses in 15 of which 37 cases occurred. A third supply, also pure, was distributed on three distinct walks, two of which remained free throughout, as did the third until on one occasion the carrier, on leaving the eleventh house in his round and meeting the man in charge of X's walk, obtained a quantity of milk from him. Of the 16 houses at which he subsequently called 8 were attacked, the cases numbering 22. In 230 of the 244 cases the patients were proved to have drunk milk from this one farm. Early in October Dr. Davies was informed of an outbreak of "influenza" in certain houses connected with Clifton College, but he doubted the correctness of the diagnosis and secured samples of the blood of the patients for the application of Widal's test, and by Oct. 24th he and Dr. Klein had obtained positive evidence in 38 out of 41 cases, one of the 3 doubtful cases being verified post mortem by the presence of Eberth's bacilli in the spleen. Widal's test was applied to 192 cases with positive indications in 138, all but 2 of which were clinically confirmed; doubtful in 15, but 6 of these proved to be enteric; and negative in 39; 4 of these subsequently developed the fever, 2 having given a positive reaction on a later trial. Setting aside the doubtful or delayed reactions the indications of the test were confirmed in 136, or 98·5 per cent., of the 138 positive and 35, or 81 per cent., of the 39 negative and most of these at too early a stage for a determination on clinical evidence alone.

After remarks from Dr. CHILDS, Dr. WASHBOURN, Dr. BULSTRODE, and Dr. SWEETING the PRESIDENT observed that he had frequently known enteric fever to break out exactly three weeks after the arrival of troops at isolated, even uninhabited, positions in South Africa and in Afghanistan. He had far more confidence in the indications of Ehrlich's urine test than in Widal's test. The analyses of the brook and well waters were most unsatisfactory and useless for the purpose in hand. Such examinations should always be undertaken by the medical officer of health himself and not by the analyst

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Exhibition of Specimens and Cases.

A MEETING of this society was held on March 10th, the President, Dr. DAVID FAIRWEATHER, being in the chair.

Dr. LUDWIG FREYBERGER demonstrated a series of about twenty specimens of Morbid Organs which had been prepared by Kaiserling's formalin method. The results obtained showed most beautifully the special morbid feature of each specimen. Dr. Freyberger described the method and pointed out for each preparation its salient features, indicating also in each case the advantage of Kaiserling's over the older method.—Dr. BAILEY added some remarks at the end of the demonstration.

Mr. MOWER WHITE showed a patient, aged nineteen years, who, on Jan. 17th of this year, while cleaning a toy pistol and not knowing that it was loaded, accidentally fired it off and wounded his left hand. The pellet, which was spherical and 0·5 cm. in diameter, entered the palm at a point midway between the lower crease across the front of the wrist and the crease at the base of the ring finger in a line prolonging upwards the axis of the ring finger. The patient was first seen ten days after the accident. The wound on the palm was then healed and covered by a scab; the skin around it was quite uninjured. The pellet was found just beneath the skin at a point a little behind and below the pisiform bone. It had thus travelled in a direction upwards, backwards, and inwards through the tissues

of the palm. There was no evidence that the bones had been injured or that the deep division of the ulnar artery had been wounded, since there was no blood-staining of the skin of the hand on either aspect. The deep division of the ulnar nerve had, however, suffered injury just where it enters the central portion of the palm, for with the exception of the muscles of the hypothenar eminence all those supplied by this nerve were wasted and paretic and the hand presented the deformity typical of this condition. The tactile sensation of the skin was perfect. The pellet was removed a fortnight after the accident and since the operation-wound had healed the paretic muscles had been systematically galvanised. They had, however, continued to waste; they gave the reaction of degeneration and up to the present time, seven and a half weeks from the date of injury, they showed no signs of recovery. The anatomy of the part injured was discussed and reference was made to a communication by Mr. William Anderson to the Anatomical Society of Great Britain and Ireland under the date of February, 1894.[1] Finally, an attempt was made to arrive at a correct estimation of the amount of injury which the nerve had suffered, whether bruising only or actual division, and it was suggested that the time had now come when it would be unwise to withhold operative interference any longer. The case was commented upon by Mr. Elworthy, and by Dr. Freyberger, Dr. Bailey and Dr. Day, and the majority of the opinions expressed appeared to be in favour of an operation.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Diagnosis of Gastroptosis.—Acute Leukæmia.

A MEETING of this society was held on April 1st, the President, Dr. H. P. POTTER, being in the chair.

Dr. J. A. MANSELL MOULLIN showed a specimen of Double Pyo-salpinx removed by laparotomy.

Dr. SYMONS ECCLES read a paper on the Diagnosis of Gastroptosis. In the paper cases of general enteroptosis were excluded. While many such cases had come under observation the condition of simple gastroptosis uncomplicated by marked displacement of other abdominal viscera is comparatively rare. Only 27 such out of 468 cases characterised by dyspeptic symptoms, had occurred in his practice since 1888. The mobility of the viscera without any morbid effect is greater than is set down in most text-books or recognised in the cadaver. Gastroptosis was present, he considered, when the upper border of the stomach, so far as its fundus was concerned, falls below the level of the left seventh costal cartilage. Differences of opinion exist as to the relative value of physical methods in examining abdomina. In gastroptosis inspection reveals a peculiarity in the contour of the abdomen in profile, in the erect and in the recumbent position. Palpation often enables the observer to map out fairly accurately the limits of the stomach when the patient is resting against a slanting board. Ausculto-palpation and percussion have been found more useful than some others appear to have found them. Phonometry is a great aid in confirming other physical signs. The symptoms of gastroptosis are somewhat similar to those of gastrectasia, but the vomiting is more frequent and not fountain-like. Eructations are common in gastroptosis, as also is pain after food. The physical signs are, however, the best means of diagnosis. Dr. Symons Eccles alluded to several cases and exhibited diagrams illustrating them.—Dr. A. CLEMOW thought the paper a well-timed one, for many of the cases of influenza in the present epidemic have shown marked gastric symptoms, and it was possible that gastric catarrh, together with weakness of both voluntary and involuntary muscular fibres, might lead to gastroptosis. The methods of diagnosis brought forward by Dr. Symons Eccles were very clear and of the utmost value.—Dr. GEORGE OGILVIE and Mr. MENZIES alluded to cases and Dr. SYMONS ECCLES replied.

Dr. S. A. BONTOR read a paper on a case of Acute Leukæmia. A youth, aged eighteen years, who had always had good health, was suddenly attacked with the symptoms of biliousness when at school. During the next fortnight he rapidly lost flesh and strength and was sent home from school. He then had marked pallor, stomatitis, some enlargement of the lymphatic glands, but none of the spleen. Owing to change of locality, &c., he seemed to improve, but in a very short while he relapsed and quickly lost ground. There was increased swelling of the gums, of the lymphatic glands, and later the spleen enlarged. His temperature rose and he became exhausted and died six weeks after the onset of his illness. Dr. Bontor alluded to the condition of the blood in the case, which had been examined by Dr. Rose Bradford. He also referred to the question of the diagnosis of such conditions.—Dr. ROSE BRADFORD said he believed that no case similar to that related by Dr. Bontor had as yet been recorded in England. Fraenkel and Ebstein had drawn attention to them on the Continent. He had seen no less than four other cases besides that under the care of Dr. Bontor. The most marked symptoms in all these were rapid emaciation, extreme pallor, intense stomatitis, not very great enlargement of the lymphatic glands, only a slight enlargement of the spleen, some purpura, and some fever. They all ended fatally within eight weeks and after death the thymus was always found persistent and the bone marrow diseased.—Dr. WHITFIELD asked the question as to whether malaria had any part in the causation of the affection.—Dr. G. CRICHTON alluded to a case, and Dr. BONTOR replied.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Prevention and Treatment of Short Leg in Hip Disease.

A MEETING of this society was held on March 31st, the President, Dr. MACFIE CAMPBELL, being in the chair.

Dr. EDGAR STEVENSON shewed a case of Conversion of High Myopia into Hypermetropia.

Mr. C. THURSTAN HOLLAND related the notes of a case where a Penny had Lodged in the Œsophagus of a boy, aged twelve years, for three months without producing any symptoms. A radiograph showed the coin about the level of the top of the sternum. The penny was readily removed by a coin-catcher. A series of radiographs was exhibited taken by very short exposures (from 15 to 60 seconds) through various parts of the body, the rays being produced by comparative small coils—from 6 to 10 in. spark.

Mr. G. G. HAMILTON gave an account of recent observations on Yaws. His facts were derived from the literature of the subject and from a surgeon who had been for some years in Africa and who was himself the subject of the disease, a well-marked "raspberry-like" tubercle being present on his foot. The relation of yaws to syphilis was discussed and it was considered that the two diseases were distinctly different. This was the opinion held by most surgeons practising in Africa.—Dr. F. H. BARENDT thought some cases wrongly called yaws were in reality tertiary syphilides. He looked upon yaws as an infective granuloma. The contagiousness of the disease was confirmed by the history of the case exhibited.—Dr. S. G. MOORE referred to a case he had seen in West Africa some years ago, where the raspberry-like eruption was more marked. It occurred in a negro and the contrast between the dark skin and the red tubercle increased the similarity to a raspberry. He was of opinion that the disease was not syphilis.—Dr. BARR referred to a case which he had seen.

Dr. PERMEWAN showed:—1. A patient from whom he had removed a Small Pedunculated Growth of the Left Vocal Cord. There had been complete aphonia for three years. The voice returned immediately on removal of the tumour. The growth was cystic and collapsed when seized by forceps. 2. A case of Transverse Web in the Trachea resulting from cicatrisation of an old syphilitic ulcer. About half of the lumen of the trachea was occluded. There were dyspnœa and apnœa due to deficiency in the force of the blast of air; the vocal cords moved perfectly.

Mr. W. T. CLEGG mentioned a case of Congenital Malformation of the Anus on whom he had operated nine years previously with perfect result.

Dr. NATHAN RAW read notes of, and exhibited a patient suffering from, Fixation of the Lower Jaw which came on a week after a severe injury to the right side nine weeks previously. He had placed the patient under chloroform but was unable to force the jaws apart.—Mr. DAMER HARRISSON, Dr. ROSS, Dr. ALEXANDER, and Mr. NEWBOLT discussed the causation and treatment.

Mr. RUSHTON PARKER showed: (1) a patient from whom

[1] Proceedings of the Anatomical Society of Great Britain and Ireland, N.S., vol. viii.

he had removed a large portion of the stomach for Carcinoma; and (2) a case of Compound Comminuted Fracture of the Skull in which he had replaced the broken bones.

Mr. ROBERT JONES read a paper illustrated by lantern slides upon the Prevention and Treatment of Short Leg in Hip Disease and demonstrated a new abduction splint. He advocated that abduction of the diseased limb should be maintained, that the apparatus to attain this should govern flexion and adverse pelvic tilting, that where arrest of growth threatened pelvic obliquity should be made to favour the diseased limb, that where displacements of the head occurred immediate reduction should be attempted and that tuberculous activity was no bar to the reduction of the deformity. When bony ankyloses occurred he performed oblique trans-trochanteric osteotomy, dividing the adductor tendons subcutaneously and at once placing the limb in the abductor splint until bony union occurred; the splint was then removed and the limb allowed to leave the abducted position; in doing so the pelvis became elevated on the healthy side and exercises were ordered to maintain this. That treatment should be mainly conducted in the open air. By this means all shortening not due to arrested growth could be avoided and in old cases three or four inches of practical or apparent shortening could be remedied.—Mr. R. W. MURRAY thought the adducted position due to the child lying on the sound side, the diseased limb naturally falling into this deformity. He had frequently straightened deformed tuberculous joints and had not seen general tuberculosis result.—Mr. RUSHTON PARKER congratulated Mr. Jones on the usefulness of the new splint.—Mr. THELWALL THOMAS mentioned a case of double hip-disease where adduction of both limbs occurred with cross-leg deformity for which he performed three years ago sub-trochanteric osteotomy and kept the limbs abducted with marked improvement subsequently.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Cancer of the Uterus.—Ectopic Pregnancy.

A MEETING of this society was held at the Medical School (Sheffield), on March 18th, the President, Dr. J. W. MARTIN, being in the chair.

The PRESIDENT showed a large Ovarian Cystoma which had been complicated with ascites and in many respects simulated malignant disease.

Dr. ARTHUR WALLACE (Liverpool) showed the model of a Pelvis and Fœtal Skull for use in teaching.

Dr. BRIGGS (Liverpool) showed a thick-walled Ovarian Cyst in which the pedicle had a half twist, giving rise to a partial necrosis of the cyst wall, but without any organic adhesions although seven weeks had elapsed since the twist took place.

Dr. WALTER (Manchester) reported two cases of Vaginal Hysterectomy of Cancer of the Uterus. 1. A woman, aged fifty-two years, consulted him on Feb. 2nd, 1898, on account of a hæmorrhagic discharge commencing three or four weeks previously. The patient had been married twenty-two years and had four children, the eldest twenty-one years of age and the youngest seventeen. The menopause occurred eight years ago and until the end of last year her general health had been very good. The first symptom the patient noticed was a watery vaginal discharge in December last; it was not accompanied by any fœtor, and the following month was followed by a bright hæmorrhagic discharge recurring on several occasions. On vaginal examination the posterior lip of the surface was found to be slightly enlarged; it contained a roughened surface which bled freely when touched. The anterior lip was healthy; there was no well-marked cervical laceration and the size of the uterus was not increased. On Feb. 11th the operation of vaginal hysterectomy was performed. Some difficulty was experienced in drawing down the uterus notwithstanding the absence of any extension of disease into the utero-sacral ligaments or the surrounding tissues, and splitting the uterus was found helpful in bringing the broad ligaments better into reach. These were secured on each side by ligatures and the wound was packed with gauze. After forty-eight hours the gauze was removed and the central portion of the wound was closed by two sutures inserted at the time of operation, but the angles of the wound were left open and drained with a small piece of gauze for two days longer. All the ligatures came away towards the end of the second week. On the twenty-second day the patient was able to return to her home in the country. 2. A woman, aged forty-three years, was first seen on Feb. 25th, 1898. Her husband had died a year previously from cancer of the bladder. The patient married at twenty years of age and had had five children (one miscarriage), the youngest child being nine years of age. For five months a continual hæmorrhagic discharge had been present, occasionally it was fœtid. The patient had lost flesh and was very anæmic. The uterus was a little enlarged and freely moveable. The cervix felt and looked healthy. Cancer beyond the cervical canal was suspected. On March 1st the uterus was dilated with Hegar's dilators, and finding an ulcer just within the internal os extending upwards half an inch, with hard edges, friable surface, and bleeding freely, I proceeded with the extirpation of the uterus, removing first all the necrotic tissue possible with a curette, and then carefully closing the external os with a wide dressing forceps. The uterus was removed entire without difficulty and the broad ligaments were ligatured with silk. The vaginal wound was closed in the centre with one suture and at each angle a little gauze was loosely inserted. The after progress of the case was very satisfactory. The microscopic examination of both specimens confirmed the diagnosis of cancer. (The specimens were shown.)

Mr. E. STANMORE BISHOP (Manchester) brought forward three cases of Ectopic Pregnancy. The first case was that of a woman, aged thirty years, who had been married three years and was sterile. There was sudden, continuous pain with vomiting when the patient was first seen, attributed to her having taken indigestible food. The pain persisted for a week, but was controlled by morphia. A mass formed in the left broad ligament. It was slowly absorbed and recovery followed. The patient in the second case was a woman who had been married eleven years and who was twenty-eight years of age. She had undergone four confinements; one had been a miscarriage, but the last was a labour at full time four years ago, on which occasion the pregnancy was normal but labour was protracted. She had never been well since. She had pain in the left side on getting up and this had persisted with intermissions ever since. Menstruation had been regular since until July, 1897, when eight weeks elapsed without its occurring. The bleeding began at the end of August and never entirely ceased up to the date of the patient's admission to hospital on Sept. 14th, 1897. She had gnawing pain which came on suddenly and lasted from five to six hours and then went off gradually. Her temperature was 100·2° F. A mass was found in Douglas's pouch. There was no collapse. The diagnosis was doubtful—pyosalpinx or ectopic pregnancy. Cœliotomy was performed on Oct. 4th. On the right side the swollen tube was closed at the abdominal extremity. The ovary was multicystic but small. There were several ounces of blood-clot and fibrin in Douglas's pouch covered in by adherent omentum and intestines, plus the left tube enlarged and flattened out. This tube contained adherent blood clot and had a rent in its side about the junction of the inner and middle third. The patient recovered. The third case was that of a woman who had been married sixteen months but who had had one child eighteen months before marriage. Her age was twenty years. She was admitted on March 3rd, 1898. Menstruation had been regular and normal except during pregnancy until two months ago, when the menses occurred fourteen days after the proper time. A discharge then came on and continued until the patient's admission to hospital. On Feb. 26th whilst kneeling down cleaning the floor she had been seized with sudden pain in the left iliac fossa, which had returned paroxysmally ever since and the returns were becoming more frequent. Bimanual examination revealed an unequally boggy mass in the left fornix which was distinguishable from the uterus. A diagnosis of ectopic pregnancy was made. On March 4th cœliotomy was performed. On opening the abdomen a greatly swollen and engorged left tube presented, the abdominal ostium of which was closed and curled round a normal ovary. There was a large rent in this towards the cœlom, plugged by a large clot which also filled the tube. There were some clots and dark blood in Douglas's pouch with some free blood, also dark, floating freely amongst the intestines. The right tube was reddened and elongated. The right ovary was cystic; the latter was removed. The abdomen was sponged out, the

ruptured tube and ovary were removed, and the abdomen was then closed. Recovery followed. Mr. Stanmore Bishop drew attention first to the various classifications given by Tait, Helme, Bland Sutton, and Webster, and brought forward a case under Dr. Fothergill's care as yet unpublished which illustrates the fact that an early tubal abortion may be entirely absorbed by the peritoneum. He suggested that more attention might with advantage be directed to the symptoms before rupture and proposed as a basis for discussion that the association of such symptoms as pain in one iliac region with dragging pains on movement of the corresponding leg with some loss of blood per vaginam should justify an immediate bimanual examination, and if then a swelling in the corresponding fornix of unequal consistence or a boggy swelling in Douglas's pouch were found a diagnosis of ectopic pregnancy might be made. The true symptoms of rupture of the tube into the peritoneal cavity were next discussed. Sudden pain with collapse have been so far considered as indicating this. Cases were adduced in conjunction with the two last described to show that collapse is not always present at the time of rupture, and it was suggested that the conjunction of these two symptoms pointed rather to commencing peritonitis plus the loss of blood than to the rupture itself. Assuming that in the interests of the patient it is advisable to remove a gravid tube as soon as diagnosed, if that can be done before rupture, since it is impossible to predict in what direction a tube will give way, the two routes, vaginal and abdominal, were compared and a preference was expressed for the latter.

KIDDERMINSTER MEDICAL SOCIETY.

Treatment of Menorrhagia.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 18th, Mr. S. STRETTON, the President, being in the chair.

Dr. J. POLE KITSON read a paper on the Treatment of Menorrhagia by infusion of digitalis.

Mr. J. L. STRETTON showed a youth, aged eighteen years, with a Congenital Fistula of both Lacrymal Sacs. The history was very carefully investigated and it was quite clear that the patient was born with this condition. On admission on Jan. 27th there was an opening near the inner canthus of each eye communicating with the lacrymal sacs. On the right side the opening was slit-like and on the left pin-hole. There was no evidence of inflammatory trouble or of any previous mischief. On Jan. 29th both canaliculi were slit up and the nasal ducts were dilated, the styles being left in. On Feb. 14th the edges of the slit on the right side were pared and were brought together with sutures. The wound healed all but a small point at the lower angle, which was touched with a red-hot needle and it is now quite firmly closed. The small opening on the left side had been left until after this meeting, to be then closed with cautery point. Mr. J. L. Stretton had never heard of this condition before and he had communicated with Mr. Priestley Smith, who kindly looked up the subject and forwarded the following extract from the "Graefe-Saemisch Handbook of Ophthalmology," from the chapter written by Professor Manz of Freiburg on the Congenital Malformations of the Eye and Surrounding Parts. After describing various congenital peculiarities in the puncta and canaliculi, he says: "Whether a fistula of the lacrymal sac ever occurs congenitally remains doubtful, but the possibility of such an occurrence representing a partial non-closure of the oculo-nasal cleft cannot be denied and would be attributable to arrest of development."

Mr. J. L. STRETTON also showed a patient, fifty-six years of age, who came under treatment on Nov. 8th, 1897, with Strangulated Hernia, which occurred on the previous day. He had been ruptured for twenty-five years and had worn a truss. A small piece of gut was reduced by taxis, but the major portion could not be returned, so herniotomy was performed the same evening. The sac contained a large piece of omentum, which was ligatured in two pieces and removed; the pillars of the ring were sutured together and a "radical cure" was completed. The patient went on well. The wound was dressed on Nov. 17th; it healed up and the stitches were removed. Following this he suffered from symptoms of indigestion, flatulence, and occasional diarrhœa, and on Dec. 11th a large tumour was found in the right lumbar region. It was a hard globular mass having its outline distinct and its surface smooth and regular; it was not attached to the liver; it was fairly moveable and dull on percussion. The urine was normal and there was no rise of temperature or pulse. On one or two occasions a small quantity of blood was noticed in the stools. On Nov. 18th an incision was made four inches long over the swelling. The abdominal wall was inflamed and very much thickened and adherent. Occupying the peritoneum a number of adhesions were found, in the midst of which was a small pocket of foul pus (about one drachm); communicating with the intestine and close to the perforation was the adherent omentum and one of the silk ligatures placed on it at the former operation. Owing to the inflammatory exudation and adhesions it was impossible to close the perforation or locate its exact position. For the next two months there was a continual discharge of fæces from the opening and only on one or two occasions a natural evacuation. On March 1st the artificial anus was dissected out and the gap in the intestine, which proved to be the ascending colon, closed with Lembert sutures, the bowel dropped back into the abdomen, and the wound closed. The wound was dressed on March 8th and the stitches were removed; the man was now quite well and able to walk about without a truss. Mr. Stretton drew attention to the rarity of such a condition. He thought that the passage of blood in the stools was an important diagnostic sign and that if careful search had been made the second ligature would probably have been found.

Dr. O. C. P. EVANS showed two biliary calculi removed by Cholecystotomy from a married woman, aged fifty-six years. She had several attacks of biliary colic during the two months before admission which were followed by slight jaundice and she had passed two gall-stones. An incision was made over the gall-bladder, which was found shrunken and adherent to the duodenum; it was incised and two calculi were removed. The gall-bladder was closed with Lembert sutures. The abdominal wound was sutured and a small drain of gauze was left in. The patient was discharged well in twenty-six days. Dr. Evans pointed out the desirability of early operation and the advantage of immediately closing the gall-bladder.

Mr. W. HODGSON MOORE showed a Stomach with a Perforated Ulcer from a man, aged thirty-five years. The patient had been in the army and had suffered from dysentery; he had acute attacks of pain in the upper part of the abdomen and occasional sickness. Thirty-six hours before death he was seized with severe pain in the epigastric region but there was no sickness. The following day the pain was slightly relieved by treatment and he determined to drive home, about twenty miles, and when he had gone about half way he expired suddenly. On post-mortem examination the stomach was found to be considerably dilated and on the anterior surfaces near the pyloric extremity there was a round ulcer about a quarter of an inch in diameter with clean-cut thickened edge opening into the peritoneal cavity. There was considerable thickening of the pyloric end of the stomach and the cardiac end was adherent to the spleen. The peritoneal cavity contained the partly digested contents of the stomach.

Dr. F. OLIPHANT showed a woman, aged fifty-four years, who was admitted with a supposed Rodent Ulcer affecting the upper lip and nose. There was no specific history. A portion of the growth was sent to the Clinical Research Association, which reported that "the tissue is inflammatory in structure and is infiltrated with giant-cells and grey tubercles. The lesion is evidently tuberculous in nature." She was treated with one-scruple doses of iodide of potassium after free scraping of the surface and the ulcer was perfectly healed within a month.

Dr. OLIPHANT also showed (1) two Radiographs demonstrating the Presence of Portions of Needle in the Palms of the Hand, in both of which cases it had been impossible to locate them or to be certain that they were there; and (2) a Radiograph of Ununited Fracture of the Fibula.

MIDLAND MEDICAL SOCIETY.

Exhibition of Specimens.

A SPECIAL meeting of this society was held on March 16th at the Medical Institute, Birmingham, the President, Mr. J. W. TAYLOR, being in the chair. Nominations were

received for the offices of President, Treasurer, Secretaries, and Members of Council.

The PRESIDENT showed three specimens of Diseased Uteri removed by the combined method of Vaginal and Abdominal Hysterectomy. Two were cases of uterine myomata, and in both of these the patients were virginal. The other was a case of cancer of the body of the uterus. Mr. Taylor drew attention to the necessity of aseptic preparation of the vagina in all cases of complete hysterectomy and maintained that the separation of the cervix from its vaginal attachments with ligature of the lower branches of the uterine artery proved a valuable preliminary to the abdominal removal of the tumour when vaginal extraction was exceptionally difficult or impossible.

Mr. FURNEAUX JORDAN showed a specimen of large Multinodular Myoma of the Uterus removed that morning from a patient, aged thirty-nine years. Her symptoms were entirely those of pressure on the rectum and bladder and had lasted for some months. The operation performed was complete hysterectomy by the combined method, but owing to the way in which the tumour blocked the pelvis it was found impossible to tie the uterine arteries from the vagina. At the time of report the condition of the patient was satisfactory.

Dr. FOXWELL showed a Heart with much Ulceration of the Aortic Valves and also vegetations over a wide area of the aortic surface of the aortic cusp of the mitral valve. The case was of interest because there had been in addition to the usual double aortic murmur a rough murmur, presystolic in rhythm and typical of mitral stenosis in its area of audibility. From other signs and symptoms, however, Dr. Foxwell decided that there was no mitral stenosis, but that it was one of those presystolic murmurs which occasionally accompany aortic regurgitation and the explanation of which is as yet obscure. This diagnosis proved, post mortem, to be correct.

Mr. F. W. S. MANN showed a specimen of extensive Typhoid Ulceration of the Great Intestine. The patient, a woman, aged fifty-six years, previously to admission to the infirmary had been nursing her son at home with typhoid fever. During the time she was under observation she showed none of the usual symptoms of the disease. The patient died from cardiac failure three weeks after admission, subsequently to sudden and profuse hæmorrhage from the bowel, which set in twenty-four hours before death.

Mr. FRANK MARSH read a note on the Treatment of Cancer by Chelidonium.

Dr. STANLEY read a paper on the Cerebellum.

PLYMOUTH MEDICAL SOCIETY.

Exhibition of Cases and Specimens.

A CLINICAL meeting of this society was held on March 23rd, the President, Dr. C. ALDRIDGE, being in the chair.

Mr. WHITEFORD showed (for Mr WHIPPLE) a man, aged seventy-two years, who two years previously had the lower three and a half inches of the Rectum Excised for Epithelioma together with an Enlarged Post-rectal Gland. No bone was removed or divided and the remaining gut was not drawn down and sutured. He now had fair control over what was a very well-formed anus with a distinct though narrow sphincter. Cripps's bougies are still passed once a month and contraction has never been troublesome. There is no sign of recurrence.

Mr. WHITEFORD then described an Operation for the Removal of the Sigmoid Flexure and the Rectum which he advised should follow a left inguinal colotomy (in cases of malignant diseases extending beyond the reach of the finger) at an interval of two or more weeks by means of a vertical incision through the left rectus muscle, the superior hæmorrhoidal artery being secured early and the other vessels tied separately as divided.—Mr. WOOLLCOMBE thought that theoretically the operation was a good one, but that practically there would be considerable difficulty from venous oozing at the bottom of a deep cavity. If, however, it could be shown to be practicable he admitted that it would be a great improvement and he would advise it in all but very trivial and low cases. He thought it might safely be done at the same time as the colotomy and by enlarging the same wound, precaution being taken to divide the gut between the clamps and to turn the ends with Lembert sutures to avoid soiling of the peritoneum, &c.

Mr. WOOLLCOMBE then showed a man, aged thirty-two years, the lower three inches of whose rectum he had excised three weeks before after a left inguinal colotomy four months previously. At the time of the colotomy excision seemed out of the question, but the man improved so much both in general health and in the state of his rectum in the subsequent four months that excision was undertaken and apparently with complete success after removal of the coccyx. The resulting wound was sutured with the exception of a small opening to admit the passage of a plug of gauze to the bowel above. Mr. Woollcombe thought colotomy should always be performed in malignant disease the resulting anus being usually better than that in the perineum and recurrence being less likely to take place. In performing the colotomy he always used a bridge of skin one inch wide brought together through a hole in the meso-sigmoid, the protruding loop of gut being subsequently cut clean away.

Dr. BUSHNELL showed the latest pattern of the Cambridge Rocking Microtome and a slide of Klebs-Löffler Bacilli. He also showed for Mr. LUCY an Astragalus from a case of extreme Talipes Equino-varus, showing obliquity of neck and want of development.

Mr. WOOLLCOMBE showed:—1. A specimen of Subclavian Aneurysm after distal ligature. 2. Uterine Appendages from a case of tubal pregnancy with patent Ostium of Fallopian Tube, allowing escape of blood into the peritoneal cavity without rupture of the tube. The patient had done well after the operation. 3. Uterine Appendages from a case of Pyosalpinx. 4. Notes of a case of Ruptured Gastric Ulcer which he had seen half an hour after rupture occurred, when there was no loss of liver dulness and not great collapse (the stomach being empty); the operation was performed three hours after rupture, by which time liver dulness had completely disappeared, but there were very little distension, a fair pulse, and good colour. The perforated ulcer was found on the anterior wall of the stomach two inches from the lesser curvature, midway between the cardiac and pyloric ends. The opening was plugged, sutures were inserted, the ulcer was excised, the sutures were tied, and then a second row was inserted so as to cause the inversion of the first set of sutures. The graft of omentum was brought over. The lymph was carefully sponged from the brim and the fluid from the infra-hepatic and infra-splenic pouches; these two latter were drained by a counter-opening in the loins, and the central wound was closed. The patient made an excellent recovery, the temperature never rising above 99° F. and the abdomen never being distended. The drainage-tubes were removed in forty-eight hours and gauze wicks were inserted for twenty-four hours longer.

ROYAL INSTITUTION.—On April 1st Professor Dewar gave an interesting account of various experiments and researches in which liquid air was used for the purpose of producing the extremely low temperature of about −210°. He first described the methods by which he obtained large quantities of argon and helion from the mixed gases given off by a hot spring at Bath, the water of which has a temperature of about 115° F. and yields about 250 cubic feet of gas every twenty-four hours, the greater part of it being nitrogen and about 1 part per 1000 being helion. At the temperature of liquid air the mixed gases were liquefied except the helion, which was collected in the gaseous state. When the liquid was allowed to evaporate the nitrogen boiled off more rapidly than the argon until a mixture was left containing 7 per cent. of argon, from which mixture the nitrogen could be afterwards removed by chemical methods. By means of liquid air pure argon can be frozen to a colourless, extremely transparent solid. The liquid air used in the course of the evening was taken from a reservoir on the platform and was carried about in an ordinary small uncovered tin saucepan; it was mobile like water, had a slight blue tinge, and evaporated slowly without ebullition. After the lecture a little of it was poured on the hands of some of the audience, none of whom experienced any inconvenience beyond a slight tingling sensation; it is, however, essential that the skin of the hand should be dry, for if it is moist there is danger of serious frost-bite. When poured upon water it causes immediate formation of ice

Reviews and Notices of Books.

Anomalies and Curiosities of Medicine. By GEORGE M. GOULD, A.M., M.D., and WALTER L. PYLE, A.M., M.D. With 295 Illustrations in the Text and 12 Half-tone and Coloured Plates. London: The Rebman Publishing Co., Limited. Philadelphia, U.S.A.: W. B. Saunders. 1897.

"SEVERAL years of exhaustive research have been spent by us in the great medical libraries of the United States and Europe in collecting the material herewith presented." A glance over the pages of this remarkable volume is sufficient to convince the student of the truth of the above prefatory remark by the authors. The book is a monument of untiring energy, keen discrimination, and erudition. The whole range of anatomical, physiological, medical, and surgical science has been traversed with a view to elucidate the problems presented by the healing art. In many instances the results of accidents and rites of torture, civil and religious, have been shown to illustrate the inception and perfection of legitimate operative procedure. The authors have not limited themselves as regards time and space in their endeavours to present to the profession a full and clear account of the mirabilia of animal structure and life. A treatise of this nature is necessarily somewhat discursive, but rare intelligence has been exercised in the arrangement of facts and due caution has been taken to distinguish what the authors themselves could verify, what rested on other reliable authority, and what, though coming within the range of possibility and even probability, was based on popular report. Material for literary and pictorial illustration has been diligently sought in most of the great libraries, European and American.

As would be expected a large section of the work has been devoted to the extremes presented by a study of the history of the genital and generative organs. Monstrosities of every nature and degree, both physiological and anatomical have received due consideration. Attention has been directed to the correlation of normal processes and results, their representation in fantastic disguise, and their accidental and abnormal developments. The chapter on "Maternal Impressions" is very ably written. To the illustrative cases there given we would add one which came under the observation of Dr. Budd of Barnstaple: a gamekeeper had his right forearm amputated for injury, the healing wound was dressed by a pregnant woman who at full term brought forth a son wanting a right forearm. The similarity between the two stumps was remarkable as shown by a photograph in our possession. In the description of the "Mutilation of the Genital Organs" as practised in different countries and at various epochs there might have been a fuller notice of the treatment of certain males by the Australian Aborigines. We have it on good authority that posterior urethrotomy is performed by the natives to prevent undue multiplication of the species, a procedure of note when we consider their ethnological status and bear in mind the natural occurrence of hypospadias.

One of the most interesting and instructive chapters is that on "Surgical Anomalies of the Head and Neck." Almost every recorded case has been cited and reference has been made to their bearing on the operative treatment of injuries and disease. In the discussion of "Abdominal Injuries" we failed to find mention of the possibility of rupture of organs without bruising of the parietes. A case occurs to us where the aorta and vena cava were torn asunder by the wheel of a dray passing over the abdomen without causing any sign of injury to the abdominal wall.

We heartily recommend the above work to the notice of the profession. A rare treat is in store for those of its members who may be fortunate enough to find time and opportunity to read its contents. The book is beautifully illustrated. The type is bold and the references are full and accurate. The relation of facts which are scattered through the libraries of two continents is here before the inquirer as an entrancing and unique presentment.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XVII., Session 1896–97. London: J. & A. Churchill. 1897. Price 12*s.* 6*d.*

THIS volume contains the proceedings of the Ophthalmological Society from October, 1896, to July, 1897, and gives records, in many instances accompanied by illustrations, either coloured or in black and white, of the numerous cases brought before the society. One of the most interesting is reported by Mr. Quarry Silcock, described under the title of Pemphigus, though it is right to add that Mr. Malcolm Morris, a good authority on skin diseases, doubted whether it was a case of true pemphigus. Mr. Silcock obtained the opinion of Mr. Plimmer, the lecturer on Bacteriology at St. Mary's Hospital, who found in a pure culture of the contents of an unruptured bulla a variety of micrococci (often occurring as diplococci) which did not correspond to any of the known inhabitants of the skin. These were neither staphylococci nor streptococci, were identical morphologically with the organism found in true pemphigus bullæ by Demme, Bullock, and Wells, and were finally pathogenic to mice, guinea-pigs, and rabbits. Several interesting groups of cases of Tuberculosis of the Conjunctiva are described by Dr. J. W. H. Eyre of Guy's Hospital whose article is illustrated by a chromo-lithograph. Mr. Lawford Knaggs records a case of Spontaneous Recovery of a Retinal Detachment the consequence apparently of a Gunshot Wound. Other cases of detachment of the retina are reported by Mr. Silcock and Mr. Ernest Clarke. Hereditary or Congenital Optic Atrophy and Allied Cases is the subject of an article by Mr. Simeon Snell, in which he has brought together a considerable number of cases of these obscure affections, and it is to be hoped that, when similar cases occur in the practice of other ophthalmic surgeons, they will be recorded. Mr. Snell has also collected from his own experience a series of cases of Optic Atrophy following injury chiefly of the anterior part of the head. The slightness of the injury producing so serious a result is in many of these cases remarkable, and all such cases should be reported, since not only are they interesting from a pathological point of view but from the effects supervening gradually the questions of liability and compensation are constantly arising and much judgment and knowledge are demanded on the part of the surgeon. Mr. Bickerton, in the discussion which followed the reading of the paper, stated that he had known a cyclist who received a blow on the head from a fall and compounded with an insurance company for £50, while atrophy of the optic disc followed within six months and had the patient waited he could have clamed £500.

In March last a very interesting and important discussion on retro-ocular neuritis was opened by Mr. Marcus Gunn and Dr. Buzzard, in which forms of optic neuritis occasioned by such local diseases as periostitis in the orbit or optic canal, gumma or other focal inflammation or growth upon the nerve, and those forms of idiopathic neuritis which occur after infective diseases were considered. In this discussion many facts of importance were elicited from different speakers and particularly the relations of optic neuritis to insular or disseminated sclerosis of the brain and spinal cord, which was dwelt upon by Dr. Buzzard. There are in addition accounts of many isolated cases, such as those by Dr. Bronner of Coloboma of the Lens, of Orbital Cyst by Mr. Arnold Lawson, and of Sympathetic Ophthalmitis by Mr. F. R.

Cross, as well as much miscellaneous information, as, for example, on the Best Mode of Preparing Microscopic Eye Specimens by Mr. Devereux Marshall, the Varieties and Degrees of Colour-blindness by Dr. Edridge-Green, and an account of a model illustrating Tscherning's theory of accommodation. Altogether it must be regarded as a very well edited volume.

LIBRARY TABLE.

A Practical Treatise on Materia Medica and Therapeutics. By ROBERTS BARTHOLOW, M.A., M.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia. Ninth edition. London: H. K. Lewis. 1898. Pp. 866. Price 21*s.*—That a medical work should have reached a ninth edition is sufficient proof that its author has succeeded in his endeavour to supply a book which shall meet the requirements of students of medicine of all grades. We need not therefore enter into the general merits of the present volume. In preparing this edition it has been found necessary to enlarge the work by forty-five pages. Additions and alterations have been made at all points to dispose of the new material which has accumulated by the observations made on the action of various drugs. Especially is this the case in reference to synthetical remedies which organic chemistry has produced and is producing in increasing numbers. Good descriptions of such substances will be found scattered through the work. The book, as usual, is well brought out, the general arrangement, indices, and style of printing being all that could be desired.

Climatic Treatment in Grand Canary. By BRIAN MELLAND, M.Sc.Vict., M.B.Lond. London and Manchester: John Heywood. 1897. Pp. 40.—The experience gained by upwards of seven years' medical practice in Las Palmas, the chief town of Grand Canary, has convinced the author that the climate of the island is an ideal one for the treatment of early pulmonary phthisis—that is, when there is consolidation but cavities have not yet formed. The island is very mountainous, rising in the centre (which is only eighteen miles from the coast) to a height of more than 6000 feet, and it is the rainless summer climate at an elevation of from 1300 ft. to 3000 ft. which he specially recommends for phthisical patients. In Teneriffe, which lies some fifty miles westward, there is considerably more rain in the course of the year than in Grand Canary. Ample information as to the means of reaching the island and the places to stay at when there will be found in this little book.

Mother, Baby, and Nursery: a Manual for Mothers. By GENEVIEVE TUCKER, M.D. London: T. Fisher Unwin. 1897. Price 3*s.* 6*d.*—This little book has been written as a guide to mothers, particularly young and inexperienced ones. "It is not intended in any measure to take the place of a physician, but rather to aid the physician in teaching the mother to care properly for her babe when well that she may better nurse it when sick." We do not quite see how a description of tying the cord at birth will be particularly useful to the mother, but if it is to be mentioned the description should be clear. Here after saying "the cord is tied and severed," &c., we read about half a page further on that "in the meantime the cord has ceased to pulsate and is ready to be ligatured with a strong white string of coarse thread." From which the inexperienced young mother would probably understand that the cord has to be cut twice. There is a great deal of good advice, especially as to feeding, in the book, but more details as to simple measures would have been desirable in describing the treatment of infantile constipation which is often a cause of trouble and anxiety to young mothers. The author affects what may be called the nursery style of writing; thus we find a good deal about "the little stranger" and each chapter is headed by a few lines of poetry more or less appropriate, or otherwise, such as—

> "Like genders like; potatoes 'taters breed;
> Uncostly cabbages come from cabbage seed."

A curious feature of the book is the bewildering number of pictures of babies, sometimes four on a page, so that it would not be amiss to say that the book consists largely of well-worn (though useful) platitudes with illustrations of babies in photographic attitudes. But doubtless the book will be useful to those for whom it is intended.

The Sanitarian. Vol. xl., No. 340. Price 35 cents. The American News Company, New York.—The volume contains amongst other articles a useful paper by Dr. Bermingham on Hygiene and Diet for the Pulmonary Invalids, and one by Dr. Meade Bolton on the Vitality of Pathogenic Germs in Water and Other Media, in which he insists that in all probability pathogenic germs have but a brief life in water. Mr. E. W. Thirkell contributes a paper of interest on the ventilation of mines, and Fœtal Murder is the title of an article by Dr. H. R. Storer, in which it appears to us that the evidence adduced as to the falling off in the increase of the American population being due to premature births of infants is somewhat slender. This question of variations in the birth-rate is a complicated one and it can hardly be attributed to any one factor. In taking up this position we in no sense disagree with Dr. Storer as to the necessity of controlling this practice—apparently all too common—of sacrificing fœtal life.

Paolo dal Pozzo Toscanelli: una biografia da PIETRO GORI. (*Paolo dal Pozzo Toscanelli: a Biography*, by PIETRO GORI.) Firenze: R. Bemporad e Figlio. 1898.—*Amerigo Vespucci: narrazione storica da* GIUSEPPE CONTI. (*Amerigo Vespucci: historical narration*, by GIUSEPPE CONTI.) Firenze: R. Bemporad e Figlio. 1898.—These two handy volumes appear opportunely to prepare the world for the quatercentenary commemoration of the two great Tuscan geographers and explorers to be held in Florence from April 17th to 27th. They will also be serviceable in view of the third Congress of Italian Geography, which rises just before the commemoration referred to—a congress of peculiar interest to the English-speaking world as dealing largely with the "Dark Continent" and the Malayo-Polynesian Archipelago and of not less interest to the medical calling as giving much attention to meteorology and the "physical conditions of climate." On this account it is to be regretted that its sittings will be almost contemporaneous with those of the International Congress of Hygiene and Demography to meet at Madrid. Historians of medicine vie with each other in pointing out the accessions made to materia medica by the geographical discoveries, mainly due to Italians in the western hemisphere, and it is interesting to note how many of these Italians were schooled in the sciences on which the healing art rests. Signor Gori tells us, for example, that his hero, Toscanelli, was not only trained in physics, but also, with his brother Piero, graduated in Arts and Medicine at Padua—was, in fact, a "medico valentissimo" whose quest for new remedial agents, as for "spezie" and "droghe" in general, was a powerful incentive to maritime and inland exploration. Vespucci, also (as Signor Conti puts in evidence), was reared in a "physical and medical atmosphere," and when reporting the results of his first voyage from the Canaries "circa mille leghe all'Occidente" describes the therapeutics prevalent among the savages among whom he landed and particularly their recourse to the cold affusion "da capo a piede" in fever. The growing necessities of a re-awakened healing art and of a civilisation yearning after moral horizons and ideals ampler and nobler than those offered by a worn-out tradition evoked, in fact,

the explorers and pioneers of the Renaissance, producing and moulding and sending on their mission such men as Toscanelli and Vespucci and sustaining them through stern experiences abroad and yet sterner ordeals at home till their lives became the tissue of romantic adventure and prosaic controversy so instructively and attractively set forth in the "biografie" before us. The literary exposition, unusually artistic and effective even for writers of approved skill like Signor Gori and Signor Conti, is assisted with portraits, Toscanelli's being as impressive in its way as that of Savonarola, while Vespucci's might have been with profit reinforced by the beautiful one just brought to light in the Church of the Borgoguissanti and known to have been the work of Ghirlandaio. This represents him as the "bel giovane" of a familiar Florentine group and would have prepared us for the masculine voyager, hardened by adventure and sobered by trial, whose likeness confronts Signor Conti's title-page.

Gardiner's Household Medicine and Sickroom Guide. Edited by W. H. C. STAVELEY, F.R.C.S. Eng. Thirteenth edition. Pp. 511. 51 Illustrations. Demy 8vo. London: Smith, Elder and Co. Price 8*s.* 6*d.* 1898.—The first edition of this work, written by the late Dr. John Gardiner, appeared in 1861 and the fact that it has now reached its thirteenth edition shows that it meets a definite want. Its avowed object is to supply useful medical knowledge to those who, like colonists and missionaries, are removed from skilled medical help, and it is not intended to encroach in any way on the province of the medical man. It may be added that the greater part of the volume might serve as a text-book for nurses during their period of probation as it contains a large amount of useful and practical knowledge and at the same time provides a sufficiency of anatomy and physiology. While fully recognising the danger that may result from prescribing by unskilled persons Mr. Staveley has supplied a number of formulæ for use in emergencies. The book fully succeeds in its object and is essentially practical in its execution.

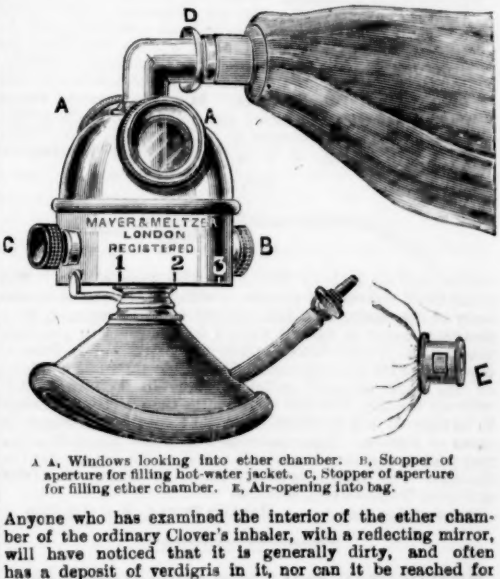
The Pocket Formulary for the Treatment of Diseases in Children. By LUDWIG FREYBERGER, M.D. Vienna, M.R.C.P. Pp. 208. London: The Rebman Publishing Company. 1898. Price 6*s.* 6*d.*—Compiled in order to provide in a convenient form necessary information about the therapeutic treatment of children this volume consists of two parts. The first, which occupies 180 pages, is an alphabetical list of drugs. In it useful details as to therapeutic uses, dose, and incompatibilities are given, and convenient prescriptions, which have been carefully planned so as to cover the taste of the drugs, are supplied. The author has evidently taken great trouble with this portion of the work. The second part is called the Therapeutical Index and contains the names of some of the commoner diseases of childhood and of the appropriate remedies. This section is disappointing, for it is incomplete. The arrangement is unsatisfactory and the nomenclature hybrid. English and Latin terms are used haphazard; for example, Mumps and Morbilli occur as headings without any cross reference under parotitis or measles and the only reference to exophthalmic goitre is under Struma exophthalmica. It is a pity that this portion is so inferior to the rest of the book.

BRISTOL ROYAL INFIRMARY.—The annual meeting of this institution was held on March 22nd, under the presidency of Sir C. Cave. The report stated that 3183 in-patients had been admitted during 1897, against 3210 in 1896, and that 37,056 out-patients had been treated, against 34,107 in the preceding year. The financial statement showed that the total ordinary income for 1897 was £9648, against £9587 in 1896. The total ordinary expenditure was £13,195, against £12,770 in the previous year. The President said that there was a deficit of nearly £14,000 due to the treasurer.

New Inventions.

IMPROVED ETHER INHALER.

MESSRS. MAYER AND MELTZER have constructed for me very satisfactorily a Clover's smaller ether inhaler with some modifications which I think will be found very useful and which are shown in the accompanying illustration. 1. In the dome of the ether chamber are two circular apertures on either side into which are screwed two watch-glasses or "windows" (A A) allowing a view of the interior, so that the quantity of ether in the chamber can be easily seen at any time during an administration. These "windows" can be unscrewed and the whole of the interior cleansed with ease after each administration. To facilitate thorough cleansing and to afford a good light in the ether chamber the interior surface is plated and polished in the same manner as the exterior. The glass "windows" fit accurately so as to prevent any leakage of ether in whatever position the inhaler be placed. Should the glass become foggy from condensation of breath on its inner surface, by turning the inhaler so that the ether passes over the glass for a moment, it will be immediately rendered clear.



A A, Windows looking into ether chamber. B, Stopper of aperture for filling hot-water jacket. C, Stopper of aperture for filling ether chamber. E, Air-opening into bag.

Anyone who has examined the interior of the ether chamber of the ordinary Clover's inhaler, with a reflecting mirror, will have noticed that it is generally dirty, and often has a deposit of verdigris in it, nor can it be reached for cleansing purposes. This is obviated by the inhaler described. 2. The water jacket instead of being closed entirely has an aperture with a detachable screw-stopper (B), so that it may be filled with warm water before the inhalation in cold weather; and the jacket may be quickly emptied and refilled if required during a long operation. 3. In the distal end of the bag is an aperture E covered by a metal cap, the rotation of which closes or opens a slot for admission of air into the bag.

It will be found that by keeping the slot only slightly, but continuously, open (after anæsthesia has been induced) cyanosis is prevented and quiet anæsthesia continues. In weakly people air may be admitted continuously from the first. By taking off the cap the bag can be cleansed out with a mop after administration. I have used this inhaler for some months and find it very satisfactory in its working.

Bath. T. WILSON SMITH, M.D. Lond.

AN EYE PROTECTOR.

AN ingenious and useful protector for the eyes of cyclists and others exposed to wind and dust has been devised by Dr. E. Mirovitch and is described by him in a communication made to the French Hygienic Society in February last.

It consists of a thin shell of horn or other translucent substance. The anterior surface presents an aperture in which plain glasses or the glasses commonly used by the cyclist are accurately fitted and allow neither dust nor air to impinge on the eye. The posterior border of the shell can be easily adapted to the parts surrounding the eye with which they are in contact, except in that part which extends towards the ear. Here a groove exists which, being separated from the temple, allows a free current of air to the cavity of the chamber between the eye and the glass and thus permits ventilation, whilst it prevents the glass from being dimmed by evaporation.

IMPROVED ELECTRODES FOR UTERINE APPLICATION.

THESE consist of an intra-uterine electrode and of an abdominal electrode. The latter Fig. 1 consists of a sheet of copper measuring 10 in. by 7½ in., in the centre and at the back of which is a screw to which is attached the connecting wire, whilst on the opposite side is a pad composed of chamois leather filled with animal charcoal, divided into longitudinal compartments in order to equally distribute its contents. This indifferent carbo-copper electrode is cleanly, portable, readily adapted to the surface of the body, and is both effective and reliable. It makes a much better electrode than the large clay pad of Apostoli and avoids the mess and inconvenience of this method. The intra-uterine portion Fig. 2 is a metal sound covered to within half an inch of the point with gum elastic. The point itself consists of platinum, which is screwed on to the body of the instrument and enables it to be replaced by a platinum trocar in case it should be necessary to puncture the fibroid. To the handle end of the instrument is fitted a copper loop for the wire connexion. This instrument allows of the application of sufficient force in its introduction without bending, but still at the same time is pliant enough to be bent at any suitable angle that may be necessary in cases of flexion. This electrode overcomes the difficulties met with in the use of Apostoli's sound, which is too pliant in flexions. The instruments are made by Messrs. J. Weiss and Son, Oxford-street, London.

FIG. 1.

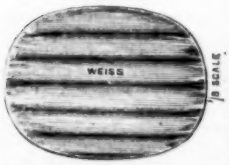
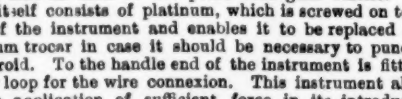


FIG. 2.



Woodhall Spa, Lincoln. ROBERT CUFFE, M.R.C.S. Eng.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia of the Fellows of the Royal College of Physicians of London was held on Monday, April 4th, the President, Sir SAMUEL WILKS, being in the chair.

The PRESIDENT delivered his annual address in which he briefly reviewed the proceedings of the College during the past year, noticing especially the admission of H.R.H. the Prince of Wales to the Fellowship, the research work done in the laboratories, the lectures delivered before the College, and the labours of the Censors' Board. He referred also to the steps taken by the College to promote the passage of the London University Commission Bill, the deputations to the Government respecting the Army Medical Department and to the Secretary of State for India upon the question of contagious diseases. With respect to the attitude taken by the College upon other burning questions—as unqualified practice, medical aid, hospital reform, and the midwives question—the President expressed the opinion that the College had to regard these and similar topics from a higher ground than that of self-interest and to respect that individualism which was the characteristic of Englishmen, a view too little regarded by many who advocated active interference. He thought that but little good could come from the College joining with those who were for ever crying out to Hercules for help and invoking the strong arm of the law to protect their interests and pointed to the example set by Harvey and his compeers who steadfastly pursued their labours in the midst of the turmoil of civil war. Quoting Bacon's words that "every man was a debtor to his profession" he pointed to the College as one of the greatest temples of Æsculapius and said that they should never forget they were trustees of a great inheritance. He next proceeded to sketch the lives and characteristics of the sixteen Fellows who had died since the last annual meeting—Dr. James Andrew, Sir J. C. Bucknill, Dr. J. Braxton Hicks, Dr. F. Chance, Dr. Owen Daly (Hull), Dr. T. Bell Fletcher (Birmingham), Dr. R. Mundy Gover, Dr. A. Hall (Brighton), Dr. C. A. Lockhart Robertson, Dr. W. H. Robertson (Buxton), Dr. W. Roxburgh (Ipswich), Dr. Jas. Turnbull (Liverpool), Dr. Henry Thompson, Dr. William Wadham, Sir R. Quain, and Dr. Charles West.

On the motion of Sir A. GARROD, seconded by the SENIOR CENSOR (Dr. Gee), a hearty vote of thanks was accorded to the President for his address.

Sir Samuel Wilks then laid down the insignia of his office and the Fellows proceeded to ballot for the President of the ensuing year. The result was a practically unanimous vote for Sir Samuel Wilks, who received 99 votes from the 103 Fellows present, Dr. Dickinson, Sir R. Douglas Powell, and Sir William Roberts each receiving one vote. Sir Samuel Wilks was then inducted into office by the Senior Censor amid applause.

Sir WILLIAM PRIESTLEY drew attention to the rumoured changes by the War Office in respect to the rank of army medical officers, from which it would appear that it was proposed that no medical officer could be promoted beyond the rank of colonel. Sir William Priestley urged that steps should be at once taken to ascertain the truth of this report and if it be substantiated to represent to the Secretary of State for War that such a limitation would be detrimental to the best interests of the service.

Sir JOSEPH FAYRER said that if that proposal were carried into effect it would render futile any other concessions, for if a medical officer were worthy the rank of colonel he was equally entitled to hold that of major-general.

A resolution was carried to take action in the direction indicated by Sir William Priestley.

On the motion of Dr. POLLOCK a vote of sympathy was accorded to the family of the late Sir Richard Quain in the great loss they had sustained.

It was reported that at a meeting on March 29th of medical delegates and the London Members of Parliament to urge on the latter the claims of the University of London Commission Bill the College was represented by Dr. Allchin.

The PRESIDENT offered for the acceptance of the College a gift of silver plate presented by the late Sir Richard Quain on Feb. 17th last. The gift comprised a handsome candelabra and other pieces of presentation plate of which the deceased Fellow had been the recipient during his professional career.

On the motion of Sir JOSEPH FAYRER the thanks of the College were directed to be transmitted to the relatives of Sir Richard Quain.

The PRESIDENT also offered for the acceptance of the College a microscope by Ross belonging to the late Mr. Edward Palmer, M.D. St. And., M.R.C.P. Lond, presented by his son.

A communication was read from the secretary of the Royal College of Surgeons of England reporting certain proceedings of the Council on Feb. 10th.

On the invitation of the secretary of the International Congress on Hygiene and Demography to be held at Madrid, April 10th to 17th, Dr. Odling was appointed delegate from the College.

A memorial was read from Dr. Edmonstone Charles, F.R.C.P., and others connected with the College, asking the College to assist them in protecting the interests of British practitioners in Italy in view of proposed legislation, which would require every foreign practitioner to undergo the curriculum and examinations of that country before being granted permission to practise there.—On the motion of Dr. BAGSHAWE, seconded by Dr. CULLINGWORTH, the President was authorised to take immediate steps to forward the plea of the memorialists.

Reports were received from the Committee of Management and from the Laboratories Committee.

THE LANCET.

LONDON: SATURDAY, APRIL 9, 1898.

THE vacancy caused among the Crown members of the General Medical Council by the death of Sir RICHARD QUAIN will be filled up shortly, probably at the next meeting of the Privy Council. It is well known that three different sections of the medical profession consider that they have a claim upon the Duke of DEVONSHIRE for this seat—namely, Mason College, Birmingham, as the germ of a new Midland University; the dentists, who are unrepresented upon the General Medical Council while owning obedience to its discipline; and, the great body of general practitioners as opposed to consultant practitioners and teachers. We shall not be wasting time in considering the demands of these sections, although the appointment is in the hands of the Crown and not in those of the medical profession, for everything which affects the constitution of the General Medical Council is of importance to all of our readers, who ought to be in a position to judge of the use that is made by the Crown of its patronage.

The claim of Mason College, Birmingham, being the weakest, can be considered and dismissed the most easily. There is no Midland University. While giving full credit to the enterprising spirit which desires to regard as *un fait accompli* a matter which is as yet only mooted, we think it decidedly "previous" that a university in embryo should be represented upon the General Medical Council before it is viable. We have the less hesitation in expressing this view strongly because universities and medical corporations are already fully represented upon the Council. These bodies possess twenty seats out of thirty, leaving ten to be divided between the Crown and the Direct Representatives of the profession, so that it would not be conducive to good balance in the Council that one of the seats belonging to the Crown should be handed over to a forthcoming university. With regard to the dentists, they have a far better case. They are a very numerous body and have interests which are more widely spread than the interests of any particular corporation. They are totally unrepresented upon the Council, while their Register is under the ægis and control of the Council and their educational curriculum has to be maintained to the satisfaction of that body. It is manifestly hard upon the dentists that they should be in disciplinary subservience to a government in whose deliberations they have no particular voice. Therefore their claim is a good one. But, on the other hand, it is doubtful if their time has yet arrived. It is nearer than the time of the Midland University, but there is no great hurry. There are some five thousand dentists on the Dental Register and only an insignificant proportion of them, about one hundred and forty in number, possess medical qualifications as well as those licensing them to act as dental surgeons. This does not show any marked educational evolution and in the eyes of the medical profession it may militate against their claim to representation. We do not go quite so far as this—indeed, it might be argued that the more specialised the dental profession is the more right has it to demand special representation—but we do think that the case of the dentists is not so urgent that one of the Crown Representatives should be told off to hold a brief for them. They have as yet suffered little by having no voice on the Council, while on all hands it is admitted that the profession of dentistry is improving in status and knowledge by great strides. When under existing arrangements there is manifest progress towards better things we do not see that there is any necessity for immediate change, though we hope that in the near future the dentists will have their representative, and one who shall be added to the existing Council with their needs in view.

We come now to the general practitioners whose claims at the present juncture are far stronger than the claims of any corporation or of any special branch of the profession. Here we are dealing not with a section of the medical profession (as we have termed them above), but with the whole profession; for the welfare of all medical schools and corporations is bound up with the welfare of the greatest number of their pupils and members. No one denies that the medical profession is in a state of unrest and discontent, although we believe that we see around us signs of the prevalence of a better temper. Under these circumstances it is particularly important that the Government should have as their representative an adviser representing no class, no section, no corporation, no university, but just the rank and file of our calling. It will be said by some that the profession as a body has already Direct Representatives, but there is plenty of room at the Council table for another voice to be used in behalf of general rather than particular interests. The General Medical Council is constituted for the protection of the public, and the selections of the Crown especially represent the public interest, as the Universities are represented by their own spokesmen, the corporations by theirs, and we, the body of the medical profession, by ours. It is manifestly of the first importance that the Crown Representatives should be aware of the troubles and needs of the medical profession, for how otherwise can they rightly judge between the profession and the public when questions are under debate where public and professional interests are not identical? Just such questions—several in number and of the highett importance—are rife now, so that the appointment by the Crown of a man who is able to advise with the authority and decision acquired by actual experience will be particularly well-timed, and we may add politically sound and popular. To our thinking a forthcoming university has no claim whatever to the vacant Crown seat; the dentists have a good claim, but will soon have a better one, when there is no reason why they should not be granted a special and extra representative of their own; but the general practitioner at the present time wants every assistance that he can obtain to enable the Council and the country to understand his position and rightly to judge between him and the public—for the public good.

IT is an interesting coincidence that the reception by Mr. CHAPLIN of a deputation, for which we surmise Dr. NEWSHOLME is largely responsible, relative to the sanitary control of oyster layings, &c., should have been almost

immediately preceded by the publication of Dr. BUCHANAN'S report to the Local Government Board, which we notice in another column, on an outbreak of oyster-borne enteric fever in certain districts of Essex and Suffolk. The two events supplement one another in a very happy fashion, and although the deputation referred to was in itself sufficiently influential, supported as it was by Sir WILLIAM PRIESTLEY, M.D., and by the medical officers of health of Liverpool, Manchester, the Port of London, and Brighton, it is bound in the eyes of the public to acquire additional force and importance from the almost simultaneous appearance of Dr. BUCHANAN'S closely reasoned report.

Since the remarkable outbreak of enteric fever amongst the students of Wesleyan College, Middletown, Connecticut, U.S.A., which occurred in the autumn of 1894, and which was the subject of a special article in our columns,[1] circumstances have not conspired together to afford us an equally satisfactory opportunity of studying the manifestations of oyster-borne enteric fever. In the outbreak, however, which occurred among certain residents of, and visitors to, health resorts in Essex we have a series of cases and associated phenomena which, considered together, form a chain of evidence of a very convincing nature against certain oysters, and we have been fortunate in that the investigation of this outbreak was entrusted to one so well qualified as is Dr. BUCHANAN to marshal facts with a proper regard for their relative values and the inferences which the facts justify. There is, too, about this most recent series of cases a certain similarity, both as regards numbers and behaviour, to that which occurred in connexion with the old students' annual supper at Wesleyan College. Then the students came from all parts of the United States to meet in friendly intercourse and following on this gathering some 26 cases of enteric fever arose amongst those who had partaken of certain oysters at the feast. Here, in the most recent instance, we have amongst those attacked, holiday-makers who after their visit to a certain seaside resort returned to their homes and were attacked with typhoid fever; and here, again, as in the Connecticut series, some 26 persons were also concerned. In the instances dealt with by Dr. BUCHANAN the circumstantial evidence is so strong that the case against the oysters is almost overwhelming, altogether apart from any considerations as to the locality from which the oysters in question were procured. It is evidence such as this which all investigators should endeavour to procure by an unbiased consideration of the nature of the illness, the distribution in time and space of the attacks, and last, but by no means least, by a careful analysis of the other opportunities of infection to which those attacked may have been exposed. It is only by this means that a proper estimate of the probabilities—for *proof* in these matters is impossible—can be arrived at. When, then, this circumstantial evidence had been obtained Dr. BUCHANAN visited the locality from which he had ascertained that the oysters had come and he found that they had in the main been collected from certain layings almost at the mouth of the Brightlingsea sewers—from the layings, that is, of which Dr. BULSTRODE spoke in such strong terms of condemnation in his report to the Local Government Board. The oysters were all of foreign origin—that is to say, they were what are known in the trade as "re-laid Americans" and "re-laid Portuguese"—i.e., oysters imported from America and other parts of Europe and laid down again in the waters of our estuaries. Although, therefore, these oysters were, as regards origin, foreign, they must be regarded as having received their pollution in English waters, and it has to be noted that they had apparently opportunities for becoming *specifically* infected during their sojourn in Brightlingsea Creek. Important and instructive as this series of enteric fever cases is in itself, it raises, as Dr. BUCHANAN points out, an issue which is by no means limited to certain districts in the counties of Essex and Suffolk—namely, what is the real extent of the mischief caused by Brightlingsea oysters consumed in the health resorts of our east coast, not only by the residents in those places, but by the thousands of "trippers" who annually and for short periods visit these easily accessible spots? What, in other words, is the extent to which oysters are responsible for sporadic cases of enteric fever in London and other parts of the country?

Not only have we to consider the visitors who consume oysters at health resorts, but we must also be mindful, as Dr. NEWSHOLME has illustrated, of the effect—certainly not inconsiderable in its gross amount—of oysters imported into our large towns from polluted layings or storage ponds such as those at Brightlingsea, the Medina, Emsworth, Southwick, Poole, Grimsby Docks, the Penrhyn River, and other places. This aspect of the question is one which we cannot enter into here, but medical officers of health throughout the country may well have regard to it in their etiological investigations, taking Dr. BUCHANAN'S report as an example of the methods which should be adopted in approaching the inquiry. It is, however, necessary to insist upon the fact that the amount of enteric fever which may be traceable to oysters is only a part of the evil which is attributable to these molluscs. That cases of serious gastric disturbances—in some instances so severe as to simulate cholera—may occur as the result of consuming foul oysters and other shellfish has been perfectly obvious to the profession for years; but it is of importance to note that any given outbreak of illness may present varying characteristics. For instance, in an outbreak of illness which occurred in a French town from the consumption of certain polluted oysters obtained from Cette on the Mediterranean coast of France, of 14 persons who were attacked 12 suffered from gastric disturbances of varying degrees of severity, while the remaining 2 suffered from very severe attacks of enteric fever. With the illness, specific and other, which may be caused by the consumption of raw mussels and cockles we cannot here deal, but we think the President of the Local Government Board must have been incorrectly reported in the lay press in this particular, as the Medical Department of the Board must be, as a result of Dr. BULSTRODE'S report, fully alive to the danger which may result from the consumption of these shellfish when procured from positions where they are liable to pollution. We may instance the detailed account given in the report of

[1] THE LANCET, Jan. 26th, 1895.

the cockle industry at Leigh in Essex. We are, however, very glad to hear that Mr. CHAPLIN is shortly about to introduce a Bill to prevent a recurrence of such an outbreak as that caused by the Brightlingsea oysters. The matter is urgent and it is to be hoped that the Bill will be brought before the House of Commons soon after Easter.

IN the case of Harrop *v.* the Corporation of Ossett, which was reported in our last issue, the plaintiffs, property owners, were refused an injunction to restrain the corporation from using an adjacent site for the treatment of small-pox. Mr. Justice ROMER'S finding seems to be almost the only one which was possible in the circumstances. There must necessarily be important obstacles to a decision to the effect that a small-pox hospital constitutes a legal nuisance when there is no evidence that the hospital in question has actually caused infection of persons living in the neighbourhood and when in the case of other small-pox hospitals similarly situated it is only occasionally that danger of the kind apprehended has been manifest. Moreover, as Mr. Justice ROMER indicated, no one need live in continual dread that his household may in the future be exposed to infection from a neighbouring hospital. They have only to be efficiently vaccinated or revaccinated, as the case may be, and they may be exposed as often as they please with impunity. The interest of the case, however, lies in the use made by the defence of the statements of certain witnesses as to the well-known cases in which small-pox has spread in characteristic fashion round hospitals. These witnesses rejected aerial convection even as a working hypothesis to account for the facts and believed that defects of hospital administration might somehow or other have been responsible for the characteristic incidence of the disease in the neighbourhood of the hospital in each instance. These opinions were relied upon for inference that if only a hospital is, or is likely to be, well administered, there is little or no risk that it will involve exposure to infection of persons living in the neighbourhood. We are by no means sure of the soundness of this inference. The question arises—what in this sense constitutes proper administration? Unless the average sanitary authority is able and willing to keep in readiness, year in and year out, buildings, beds, and staff to an extent hitherto uncontemplated, definite risk of a breakdown in administration is bound to be incurred whenever a sudden epidemic of small-pox occurs in the district. Moreover, if the characteristic spread of small-pox round hospitals is held to be a matter of administration then it has to be added that we have yet no evidence that the best of administration can prevent its occurrence. In none of the outbreaks of recent years has this question been put to proof in the way in which it formerly was in London by the Metropolitan Asylums Board. Administrative shortcomings such as occurred in the case of Warrington and other hospitals were hardly in question in the case of Fulham Hospital in 1884. Here the hospital was prepared beforehand for the epidemic, and probably nowhere before or since have administrative precautions been carried out with greater thoroughness and rigour. Nevertheless the failure of these measures to prevent the characteristic spread of small-pox round this hospital was so complete as to compel the Metropolitan Asylums Board to carry out the policy of removing all cases of small-pox so far out of London as the ships in Long Reach. In their neighbourhood there is happily little population on which the incidence of small-pox can be studied.

Annotations.

"Ne quid nimis."

THE NEW PRESIDENT OF THE GENERAL MEDICAL COUNCIL.

ON Tuesday, April 5th, the General Medical Council by a unanimous vote elected Sir William Turner, M.B. Lond., LL.D. Glasg., D.C.L. Oxford and Durham, F.R.C.S. Eng. and Edin., F.R.S. London and Edinburgh, &c., to be its new President in the room of the late Sir Richard Quain. Sir William Turner received his medical education at St. Bartholomew's Hospital, graduating M.B. at the University of London in 1857. In 1867, on the death of Professor Goodsir, he was elected Professor of Anatomy at the University of Edinburgh. Among many other appointments he has been Examiner in Anatomy at the Universities of Oxford, London and Durham, Lecturer on Anatomy at the Royal College of Surgeons of England, and President of the Royal College of Surgeons of Edinburgh. For many years past he has been chosen to represent the University of Edinburgh on the General Medical Council and in 1889 was elected by the Senate of the University as one of their representatives on the University Court. He is the author of an "Atlas of Human Anatomy and Physiology," lectures on "The Comparative Anatomy of the Placenta," and other antomical works, besides numerous papers on various scientific subjects. In 1886 he received the honour of a knighthood. For thirty years he held a commission in the 2nd Edinburgh Rifle Volunteer Corps, and retired in 1889 with the honorary rank of Lieutenant-Colonel. Sir William Turner brings to bear upon the duties of the new post a sound judgment and wide experience in some part derived from his having been in 1881 a member of the Royal Commission appointed to inquire into the working of the Acts affecting the medical profession.

A QUESTION OF FEES.

A SUIT for the recovery of a professional debt which was recently decided in the Shoreditch county court well illustrates the readiness with which a misunderstanding may arise as to the true relation between medical practitioners and their patients. In this case an important point was raised in connexion with the question—what term of attendance was covered by the ordinary fee for accouchement? The practitioner very liberally allowed a fortnight. This concession, however, did not satisfy the defendant, who protested that a further course of treatment for ophthalmia in his infant child should have been included. With this remarkable opinion the presiding judge was at first disposed to agree and he practically refused to accept any limit as closing the period of medical supervision naturally consequent upon delivery and covered by the same primary charge. We cannot but regard this attitude as being as injudicious as it is unjust. There is obviously no possibility of assigning a legal term in such cases except by an appeal to the rule and custom of medical practice. We have referred to the view taken by the practitioner already mentioned as being very liberal. Professional usage in general practice has fixed the ordinary

lying-in period at from seven to ten days. After this time has elapsed medical attendance may as a rule be safely discontinued and this term therefore is alone covered by the ordinary confinement fee. It follows that the practitioner in the case quoted erred by doing injury to his own interest. Fortunately for the course of justice a further examination of his claim brought out such evidence of his fairness and of certain tactics on the part of the defendant that the suit was given against the latter. We congratulate both judge and plaintiff on having, after a difference of opinion which need not have arisen, arrived at a settlement the justice of which is abundantly self-evident.

EGGS AND LARVÆ OF FLIES IN THE HUMAN BODY.

Two cases of myiasis interna are described in the *Deutsche Medicinische Wochenschrift* of March 24th, one by Dr. Michael Cohn (Berlin) and the other by Dr. Bachmann (Ilfeld, Hanover). Dr. Cohn's patient was a child, three months old, who had for the first two months been fed on condensed milk and subsequently on cow's milk diluted with water. The milk was on all occasions given by means of a feeding bottle having the ordinary indiarubber fittings. After the cow's milk began to be used the fæces, which had previously been firm, soon became thinner and more copious; eventually frothy offensive motions mixed with mucus were passed five or six times in the course of the day and three or four times at night. The child at the same time often expectorated small cheesy masses (gekäste Bröckel, Käseklümpchen, Milchklümpchen), was generally uneasy, had fits of sudden screaming, and suffered from attacks of internal pain which usually lasted about five minutes. On Oct. 19th the mother found a quantity of what she called living "worms" on one of the child's jackets which had been taken off three days previously and kept in a dry wash-tub under some other dirty clothes; these "worms" were in the very same places where the cheesy masses which had been expectorated had lain, their position being marked by yellow stains which could not be easily washed out. On Oct. 21st, intending to observe the result, she purposely set aside, without washing it, another jacket soiled with similar cheesy matter which had been expectorated, and on Oct. 23rd she found that it contained a large number of living round "worms," some of which, wrapped in paper, she brought to Dr. Cohn. Moreover, she had on the previous day found in the child's napkin, after the bowels had been moved, similar whitish masses which were intimately mixed with the fæces and some of which she brought to Dr. Cohn. They had partly broken up into small white scales (Schüppchen) and the mother was convinced that the "worms" had been developed from such scales because the child had never passed worms. Dr. Cohn soon examined the patient and found nothing unusual either in the general appearance, or in the mouth, or about the anus; the child was fairly well nourished, was rather pale and had a prominent abdomen. A motion which had been recently passed showed no abnormal constituents. Next morning the mother reported that in the evening after Dr. Cohn had seen the child she found a great number of the *Schüppchen* about the anus, whereupon she administered an enema and caught the escaping water in a dish. It contained a large number—about 100—of these white objects without any admixture of fæces; they were shown to the father and to some neighbours, but were thrown away before Dr. Cohn's next visit. Fæces were not passed until some hours after the enema; Dr. Cohn saw this motion; he did not observe any abnormal appearance in it and there has been no recurrence of the *Schüppchen*. The digestive troubles and restlessness soon disappeared, the cow's milk was resumed, and the child's condition became quite satisfactory. The "worms" which were brought to Dr. Cohn were larvæ of the common house fly about 8 millimetres ($\frac{1}{3}$ in.) in length. The *Schüppchen* were about $1\frac{1}{2}$ millimetres ($\frac{1}{16}$ in.) in length and were found on microscopic examination to be flies' eggs containing mature embryos. Dr. Cohn was not present when the eggs were passed from the bowel, but he discusses the question at some length and accepts the account given by the mother. He considers it is unlikely that the eggs were swallowed in the milk and thinks that they were more probably deposited by several flies on the saliva and milk about the lips as the child lay asleep and that they then found their way into the mouth. The other case of myiasis was of a different character. Dr. Bachmann was consulted last August by a gendarme, who complained of bilious vomiting, loss of appetite, and other symptoms which pointed to atony of the stomach; there was, however, no actual dilatation. The man had given way to drink and had for five years been much worried by a lawsuit. For a long time he had eaten minced beef, either cooked or raw, and generally with eggs, as other food disagreed with him, but now he was hardly able to take the minced beef. Three weeks before coming to Dr. Bachmann he had vomited "worms" and had done the same thing twice subsequently. On each occasion he felt uneasiness and spasmodic pain in the pit of the stomach, after which he vomited over a hundred white maggots mixed with mucus and bile; he was also suffering from diarrhœa and increased loss of appetite. He brought for inspection a dozen living maggots about 1 centimetre (0·4 in.) long derived from some species of fly. His previous medical attendant had given him extract of fern, which made the diarrhœa worse but did not increase the number of "worms" in the motions. Dr. Bachmann prescribed infusion of insect powder with syrup of orange peel, which caused discomfort and frequent profuse perspiration but not vomiting. There were now discovered in the fæces small white masses (Klümpchen) which Dr. Bachmann found to be half-digested remains of insect larvæ that had obviously been killed by the insect powder and subsequently acted on by the digestive fluids. After this the patient did not experience any further symptoms due to "worms," and has not passed any more.

TAXATION OF MEDICAL MEN IN FRANCE.

A DISCUSSION arose on Friday, March 11th, in the French Chamber of Deputies, upon a proposal put forward by Dr. Pédebidon for the reform of the law relating to the duties payable by medical practitioners under professional licences. Two amendments were submitted. The first was couched in the following terms: "So far as medical practitioners are concerned the liability to pay duty shall arise only in respect of places occupied by them for professional purposes to the exclusion of such as are occupied for habitation only." The second amendment provided that a medical man should be subject to payment of duty only in the commune in which he actually exercises his profession and in which his diploma is registered in accordance with the law of Nov. 30th, 1892. Both amendments were thrown out. The second amendment is of special interest to medical men practising at watering places—that is to say, who for the summer season or, as it may be, for the winter season on the Mediterranean coast, occupy consulting-rooms at one or another of these places, but for the greater part of the year retire to the country or into some town and discontinue the practice of their profession. A doctor of medicine is liable to the duty solely by virtue of the practice of the profession of medicine, and not in respect of the possession of the title which is a university degree, since by the law of April 29th, 1844, it is the professional and not the educational

standing which is made the ground of the impost. The tenth article of that law provided that a licensee who occupied one or more dwellings besides his principal place of residence should be chargeable with the duty in respect only of those houses which he occupied for professional purposes. Under this law it was decided that a medical man practising at a bathing-place was not bound to pay the duty in another locality where he did not practise. The law of 1892 concerning the practice of medicine requires every medical man under a penalty to register his diploma at the prefecture or sub-prefecture and at the court of the district in which he practises. It is illogical to lay an impost upon a medical man in a place where he cannot effectively exercise his profession. This is the hard fate of medical men practising at French watering places. The Government requires them to register their diplomas in the arrondissements in which they reside for some months but do not practise and the law itself requires them to register where they do practise. In this way they are rendered liable by a flagrant piece of injustice to double dues. The Chamber, however, would have nothing to do with the amendment. Upon the principle of being thankful for small mercies the French practitioners may congratulate themselves on having escaped an augmentation of the licence duty upon all liberal professions proposed by the Budget Commission but rejected by the Chamber, by which, if it had been adopted, their assessments would have been raised from 1*s.* 8*d.* to 2*s.* in the £ upon their annual rateable values.

ACETYLENE AS AN ILLUMINANT.

To the electric furnace must now be ascribed the production of acetylene on a commercial scale. By mere fusion at the heat of the electric arc, the current itself being derived from water power, carbon combines with the calcium of lime to form carbide of calcium, a brown, slaggy-looking material, which in contact with water gives off acetylene in a state of purity, a residue of quicklime remaining. As is now well known acetylene possesses a remarkably high illuminating power owing to the high proportion of carbon it contains and to the fact that great heat is given out when acetylene burns. Although a perfectly stable gas under ordinary conditions acetylene under a few atmospheres pressure will explode with fearful violence. Care is therefore required when this gas is employed and this cannot be too widely known, especially as its use is becoming general for a great number of purposes. Thus for bicycles and other vehicles a light, compact container is carried provided with a small charge of carbide, and all that needs to be done is to add water, when the gas is disengaged and may be burned in a specially constructed burner. To cyclists water as a source of illumination must prove a great advantage. Acetylene gas is quite safe if used in properly constructed apparatus and we are glad to learn that the public will soon have an opportunity of knowing which apparatus is to be trusted. The Council of the Imperial Institute have authorised, we hear, the holding of an exhibition of acetylene gas apparatus in the grounds of the Institute at an early date, and in order to ensure that no apparatus should be admitted to the exhibition unless it is shown to fulfil the requisite conditions of safety, the council of the Society of Arts have appointed a committee to decide upon those conditions, and to lay down rules for the admission of apparatus. The committee will consist of several well-known experts. We think that this is a very wise departure, as there are many who will be glad to know the conditions under which acetylene may be used safely for illuminating purposes. Amongst other applications for which acetylene is convenient and well adapted is the lighting of a country house; the plant is very simple, easily managed, and occupies but little space. The light is over 200-candle power. As yet experience connected with the employment of acetylene for domestic lighting purposes has not been sufficiently long to enable us to mark its disadvantages, but it might reasonably be expected, so rich is the gas in carbon, to lead to a rapid blackening of the ceilings and other light surfaces of a room so illuminated.

THE ROYAL HAMPSHIRE COUNTY HOSPITAL, WINCHESTER.

UNDER circumstances to which we shall probably consider it advisable to refer at some length next week the honorary medical staff of the Royal Hampshire County Hospital at Winchester have unanimously resigned their appointments. Until the present strained position is relieved we cannot think it right that medical men should apply for vacancies on the staff of this hospital. We are able to give this advice unhesitatingly because we understand that the services of the honorary staff are being continued to the sick, so that the only argument imaginable for urgent filling of the vacancies does not exist.

"ABBASSO IL DUELLO."

OUR Rome Correspondent writes as follows:—"'Down with duelling!' Amid all the rhetoric that has filled the air since Felice Cavallotti's death in a duel loosened the tongues of mourning friends and sympathetic foes, the one sane and reassuring outburst arose from 'the man in the street,' 'Abbasso il duello.' It needed such a calamity as the extinction at the age of fifty-five years of a nobly, if not always prudently, inspired life to accentuate the indignation felt by all right-minded Italians at the retention of a practice uncivilised in itself and capable of inflicting a loss so irreparable. For what is the justification of duelling advanced by its apologists? 'It acts as a restraint on the fire-eating publicist,' they allege; 'it secures respect for the courtesies of debate in Parliament and in the press.' Indeed? Is it not precisely in those countries where it survives that the contention of parties in Legislature and journalism is still accompanied with language the most intemperate and uncontrolled? The Zola trial in France and the Crispi prosecution in Italy are instances in point too recent and too eloquent to require more than mention; while all that is best, morally and intellectually, in Italians and Frenchmen looks to far other forces than the lethal menace of pistol or sabre for the rehabilitation of public life in word and deed. 'Let it not be said,' remarks one of Italy's ablest public men, 'that abstention from duelling is an encouragement to brow-beating politicians. The exact contrary is the case. In the British press the duel is unknown, and yet,' he continues, 'quella stampa è la prima del mondo, ed il suo linguaggio è quello della discussione, non quello dell' invettiva' (that press is the first in the world and its language is that of discussion, not that of invective). As I write there lies before me the draft of a Bill to be introduced to Parliament for the suppression of duelling and its provisions with that view are stringent enough in all conscience. But if it pass into law, will it have the effect desired? History, I fear, replies in the negative. Penal enactment cannot secure social comity. The 'sic volo, sic jubeo' of the Legislature cannot evoke civilisation. In France such State intervention proved worse than useless. The edicts of Charles IX., Henry IV., and Louis XIV. bore heavily on duellists and only multiplied duels. Not much, if anything, is therefore to be anticipated from the Bill in question. Rather by the growth of the humane, philanthropic spirit, which, with all his failings, was poor Cavallotti's

motive principle, is the moral atmosphere to be created in which 'redress by violence' ceases to live. It is that 'circumambient influence' that in Great Britain has made the duel impossible—an influence to which the best of continental publicists point wistfully as an object-lesson to their compatriots. Such publicists, I am happy to say, are year by year becoming more common in Italy, where the large representation of the healing art in her Chamber of Deputies and in her Senate tends to make the legislature more and more interested in the 'salus populi' and more and more active in its promotion. With these men Felice Cavallotti was in full, not to say enthusiastic, accord, and it was these men who were most conspicuous both in Rome and at Milan in paying the last tribute to his memory. They remembered his noble initiative in the terrible cholera visitation of 1884 when he organised an ambulance service at Naples and Palermo for the relief of the poorest of the poor. They remembered his eloquent and powerful coöperation in Parliament and in the press when the frightful scourge of the 'white death'[1] had to be brought home to an indifferent Legislature; when the privations and miseries of the Italo-Brazilian emigration system had to be exposed and remedied;[2] when more recently the cry of 'pane e lavoro' (bread and work) called aloud for an immediate and effective response; when, in short, the 'salus populi' in the humbler and more helpless social grades appealed to the well-to-do world. Nor was it for hygienic and material rehabilitation only that Felice Cavallotti lived and laboured in the common interest. He strove hard to raise the educational standard at school and college. Himself a 'Grecista di prima forza' (a Greek scholar of the first order)—witness his text and translation of Callinus and Tyrtæus—he made literature and the stage itself the handmaids of the higher culture and contributed to both a series of works perennial in value and favour. 'A Shelley turned politician,' he carried into the strife of parties a noble individuality sorely desiderated in a country where (as one of its best sons avers) 'you oftener find cleverness than character.' These and many such considerations are present to his countrymen to-day and serve to explain the intensity and universality of the cry lately pressed from their hearts—'Abbasso il duello!'"

THE DOOM OF THE USURER.

THERE is every prospect, we are glad to say, that the 60 per cent. usurer has had his day, for it is most likely that the report of the Money-lending Commission will modify his methods of procedure very considerably. The difficulty in the matter is to find some way by which the really poor can obtain a loan. The well-to-do can raise money through their bankers, but for the needy there were but two sources, the pawnbroker and the professional money-lender. There is, however, another source, one unknown until a few years ago, and that is the credit societies started by the Agricultural Banks Association. These credit societies are fully described in a little pamphlet by Mr. Thomas Farrow called "Shylock at the Bar." Their amount of capital is very small, rarely over £200, which is obtained in the first instance from some charitable person in the neighbourhood as a loan at an interest of 3 per cent. This money is then lent out at rates varying from 5 to 6 per cent. The societies are managed by a council and committee elected by the members, themselves all unpaid except the secretary. Mr. Farrow gives details of the working of some of these societies, which have proved of the greatest value to small agriculturists. For the class of persons who want rather larger loans Mr. Farrow suggests that the State or the municipality might aid or the large joint stock banks in England might follow the example of their brother companies in Ireland, who advance sums ranging from £1 to £20 to any class of the community at from 5 to 6 per cent. per annum. We must await the report of the Commission as to what will be done; but Mr. Farrow's scheme of reform certainly appears to be not only sound but successful.

[1] Vide THE LANCET, Oct. 16th, 1897, p. 1016.
[2] Vide THE LANCET, Oct. 30th, 1897, p. 1151.

THE "SETTING TIME" OF PLASTER OF PARIS.

IN the issue of *Treatment* for March 24th, Mr. D'Arcy Power and Mr. J. A. Belcher publish details of a number of experiments made for the purpose of ascertaining what effect various substances in solution have upon the setting time of plaster of Paris. They find that where it is of importance to make plaster of Paris set rapidly it should be mixed with a five-per-cent. solution of common salt, and this may be made roughly by adding a tablespoonful of salt to a pint of water.

THE OCCURRENCE OF PARALYTIC SYMPTOMS AFTER INOCULATIONS FOR RABIES.

IN a recent issue of the *Neurologisches Centralblatt* Professor Darkschewitsch has a paper of very great interest and importance on this subject. Other cases have been published in which inoculations by Pasteur's method have been followed by paralysis, but there are points in Professor Darkschewitsch's two cases which are peculiar. The first case was that of a man, aged thirty-two years, who was bitten in the hand by a dog which was killed and declared by a veterinary surgeon to have been rabid. Two other members of the household were bitten at the same time. This was on July 27th, 1896. From Aug. 1st to 12th all three were treated at the same place by Pasteur's method. The patient returned home on Aug. 14th and felt so well that on the same day he bathed twice in the river as he had been used to do. On the 17th of the same month he experienced pain in the legs and in both arms and there was impaired sensibility in the left leg as well as a degree of uncertainty in both arms in carrying out fine movements. By the end of August the symptoms had much lessened in intensity. When seen on Nov. 23rd there was diminished strength in the arms and legs, of the character met with in peripheral palsy, and the weakness was more evident in the left arm and leg. There was also ataxy affecting the fingers. The knee-jerks were normal, the pupils reacted sluggishly to light, and there were pains in the limbs and some degree of impairment of sensibility. There was also distinct wasting of the small muscles of the hand. In the following June (1897) the symptoms had markedly decreased in intensity. There was a little ataxy of the fingers, but except for paræsthesia in the arms there was little else to note. In the two other persons, bitten at the same time and treated simultaneously, no such symptoms were developed. The second case was that of a man, twenty-eight years of age, who was bitten on the right leg by a dog in the middle of February, 1897. Although the dog showed no signs of rabies the patient was treated with injections a week later. About a week after the completion of the course of injections—March 20th—in the course of a few hours right facial paralysis developed and two days later in the course of a night the left side became similarly affected. The paralysis had the character of peripheral facial paralysis. Improvement began a week later and went on slowly but steadily. When the patient was seen on Sept. 10th there were traces of paralysis of the upper branches of the facial nerve and distinct evidence of weakness of the lower parts of the face. There was distinct diminution in the response to each electrical

current but no qualitative change. There was no aural affection. In discussing the relation between the injections and the symptoms of paralysis Professor Darkschewitsch remarks that in any such discussion, in which the question is the relation between a certain form of illness and some new etiological condition, two considerations must be kept in mind—(1) whether the development of the illness in question occurs more frequently or less frequently in connexion with the supposed etiological factor, and (2) whether in each case of such illness other more or less recognised etiological conditions can be excluded. For the first condition, of course, the study of a much larger number of cases of the disease under consideration is necessary and for the second a combination of unusually fortunate circumstances. In reference to the first case, none of the usual etiological factors in such a condition could be found and the same was also true of the second case. As to the question whether the paralysis was the result of the injections or of the original bite (if it was the result of either) the second case, in which the dog was stated not to have been mad at all, seems to be conclusive. The manifestations were apparently those of a peripheral affection, and it may be of some significance that they showed themselves so soon after the completion of the injections—in the one five days later and in the other a week later. The question whether the paralysis was actually the result of the injections is, of course, of very great importance.

UNQUALIFIED ASSISTANTS.

IT is proposed to petition the General Medical Council to authorise the examining bodies to hold, if they please, one or more special examinations during the present year only for the benefit of unqualified assistants over forty years of age who have completed the medical curriculum and are of satisfactory moral character. The promoters of this movement believe that by so doing the Council will remove a grievance and mitigate the severity of the new rule which while probably wise and necessary presses with some harshness upon a very helpless class of men. It is feared that many of these if unable to get upon the Medical Register will be driven into the ranks of those unqualified and unregistered practitioners whose existence in such numbers is already a grave public scandal, a serious injury to the profession, and should be a subject of deep concern to the Council. If the Council will take this step there are good grounds for believing that such examinations would be held by some at least of the examining bodies. Gentlemen willing to help by taking charge of copies of the petition for signature are requested to communicate with Dr. G. P. Hadley, Wadham House, Lozells, Birmingham, who is willing to act as secretary to the movement.

FATAL POISONING BY PARAFFIN OIL.

THE poisonous properties of petroleum and its derivative paraffin oil are not great; recovery has taken place after the swallowing of a pint of petroleum and in several cases after the ingestion of half a pint of paraffin oil. The fatalities on record are very few and therefore the following case published in the *Medical Chronicle* of February, 1898, by Dr. A. McDougall is of interest. A child, aged fourteen months, whilst playing swallowed some paraffin oil. She coughed and became unconscious. Four fits, each lasting about three minutes, occurred. They were characterised by rigidity of the limbs, turning up of the eyes, and blueness of the face. Between the fits the rigidity passed off, but the unconsciousness remained. There was no vomiting. When admitted to the Manchester Infirmary the child was much collapsed and was unconscious; the respirations were slow (10), deep, and sighing; the pulse was fairly good and not much increased in frequency; there was no cyanosis; the pupils were medium-sized and equal; there was an odour of paraffin oil from the mouth. An attempt to wash out the stomach failed, as the eye of the catheter repeatedly became blocked with mucus. Respiration then ceased and cyanosis occurred. Artificial respiration was carried out and the cyanosis passed off, leaving the child very pale. The pulse ceased, death taking place one hour and fifty minutes after the swallowing of the paraffin oil. The amount swallowed is stated to have been about an ounce and a quarter. At the necropsy the lungs had the odour of paraffin oil, the œsophagus was slightly congested, and the stomach was very pale and contained much stringy mucus and globules of paraffin oil. The noteworthy points in this case are the convulsions and the absence of the usual irritant symptoms. The former are to be explained, no doubt, by the proclivity to convulsions which exists in infancy.

LIGATURE OF THE LEFT COMMON CAROTID ARTERY WITH PRELIMINARY ELECTRICAL TREATMENT.

ON March 13th Professor Carlo Galozzi showed before the Medico-Chirurgical Academy of Naples a man, thirty years of age, whose left common carotid artery he had ligatured for idiopathic aneurysm on Feb. 16th. The patient first observed the tumour in the left side of his neck in September last and was admitted to hospital in November, at which time the tumour was of the size of a lemon and extended from the lower jaw to the sterno-clavicular articulation. As most of the space available for operation was occupied by the tumour Professor Galozzi on Dec. 2nd commenced to make a trial with electricity applied externally according to his own method and that of Vizioli. The dimensions of the tumour at that time were: horizontal diameter, 4½ in.; vertical diameter, 6¾ in.; circumference, 11 in. After a few days it became visibly smaller, and then dysphagia, hoarseness, &c., disappeared; by February the horizontal diameter was reduced to 3½ in., and the vertical diameter to 4½ in. The ligature was applied in Sedillot's triangle between the heads of the sterno-mastoid muscle. The journals which describe the case (*Gazzetta degli Ospedali* and *Supplemento al Policlinico*) do not give any particulars of the electrical treatment.

THE PLAGUE IN BOMBAY.

A VERY elaborate and valuable report on the recent epidemic of plague in Bombay has been drawn up by Dr. Khan Bahadur F. H. Choksy, who was in charge of the Arthur Road Hospital in that city. All who are acquainted with the multifarious and harassing duties which devolve on the medical staff of an infectious hospital during the prevalence of an epidemic will appreciate the devotion and zeal which have enabled Dr. Choksy to prepare and collect the materials—clinical, statistical, and pathological—which form the basis of the present work. Plague, as is well known, manifests itself under several different forms, which in this report are comprehended under the following headings:—(1) pestis minor; (2) pestis ambulans; (3) pestis simplex bubonica; (4) pestis septica; (5) pestis pulmonalis; and (6) non-typical forms. The buboes which give the disease its specific name differ considerably in size and extent, and there appears to be little if any connexion between their development and the severity of the general symptoms, for death has ensued when the enlarged glands have scarcely exceeded the size of peas and, on the other hand, favourable attacks have been characterised by greatly swollen glands. Their most usual position is in the femoral and inguinal regions and they generally terminate by suppuration, sometimes accompanied by sloughing; sometimes they undergo resolution without suppuration. The non-bubonic

cases ordinarily die with symptoms of pulmonary œdema. The pulmonary variety of plague is the most fatal of the six forms above enumerated; it is for the most part unaccompanied by buboes and the sputum is loaded with plague bacilli. In the course of the bacteriological examinations made at Dr. Choksy's hospital it was found that in many cases of genuine plague there were no plague bacilli to be discovered in the blood. The principal symptoms relied on for diagnosis were: (1) fever; (2) quick, compressible pulse; (3) furred tongue; (4) facies pestica; (5) hesitating, broken speech, sometimes with aphasia; (6) buboes; (7) suffused eyes; and (8) cough, with rusty or hæmorrhagic sputum. Morphia, strychnia, and digitalis were the medicines which seemed to yield the best results; cold sponging was also used when the temperature was high. The patients who recovered generally had a tedious convalescence. The inefficiency of Dr. Yersin's prophylactic serum was shown by the fact that one of the medical officers who had been inoculated with it died from plague three weeks later. The title of Khan Bahadur was conferred upon Dr. Choksy by His Excellency the Viceroy and Governor-General in India on the occasion of the Queen's Jubilee, in recognition of work during the early days of plague in Bombay in 1896–97.

AN UNCHECKED NUISANCE.

IT may seem an odd time of the year to complain of the smoke nuisance, but perhaps the bright sunny days of spring make more evident, at any rate in regard to individual offenders, the real offence that is being constantly committed in London. We are quite at a loss to understand why this is permitted, since there is ample provision surely in the Public Health Act to bring such an offence within its meaning. Yet any person walking, say, from the Mansion House to Trafalgar-square who is observant will find his view of the sky on a glorious fine day constantly bemurked and befouled by streams of the most visible and blackest smoke it is possible to generate. Fleet-street and the Strand are perhaps the greatest offenders noticeable and the evil may generally be traced to the kitchens of large restaurants and hotels and in some instances to industrial premises. In the Public Health Act it is enacted that the chimney of any but a private dwelling-house sending forth black smoke in such quantity as to be a nuisance can be dealt with under the section. Are these places private dwelling-houses? In the immediate neighbourhood of THE LANCET offices there is ocular demonstration of the nuisance going on every hour of the day. Surely such an intolerable nuisance and source of injury to health can be prevented by law. It is sad enough to know that there is no prospect of a Street Noises Bill becoming law or of any certainty of the better cleansing of our streets being enforced, but surely pressure might be brought to bear upon the class of offenders just indicated without resorting to new legislation.

FRENCH ENTERPRISE IN CHINA.

THE expedition which was despatched three years ago into the southern and western provinces of China by the Lyons Chamber of Commerce returned to France a short time since and the chief medical officer, Dr. Deblenne, of the French Navy, has written a long report which has not yet been made public but of which an abstract nevertheless appears in the *Lyon Médical* of Jan. 9th, 1898. The first point deducible from Dr. Deblenne's narrative has reference to the health of the travellers, which, notwithstanding the excessive fatigue they experienced, the enormous variations of temperature they endured, the change of food, and the debilitating effects of the climate, underwent no serious deterioration. This, says our contemporary, is a highly instructive and interesting fact. It seems clear that the visited districts are far more salubrious than Tonkin. Provided the ordinary rules of hygiene are observed travellers will be able to explore these regions without suffering as soon as the railway which is to follow the valley of the Red River shall have created the necessary means of access. According to Dr. Deblenne, the climate of the tablelands to the south of Yun-Nan would prove favourable to the acclimatisation of Europeans, and would even admit of their engaging in manual labour during the greater part of the year. As for the neighbouring province on the north, which bears the name of Se-Tchouan, it is divisible into two distinct portions, the western part being elevated and healthy, while the low-lying districts are hot and damp during the summer and foggy in winter. Dr. Deblenne furnishes some curious and interesting information regarding several medicinal plants which are apparently new to western pharmacology. One species, which is popularly believed to be able "to regenerate the blood," is so valuable that its cultivators are compelled to adopt extraordinary precautions during its period of growth in order to protect it from thieves. Another plant is employed "for dispersing tumours," and it is also said to quench thirst while at the same time acting as a diuretic. A third is "full of virtue against pulmonary ulcerations." Dr. Deblenne is quite convinced that useful drugs are to be obtained by a careful examination of the Chinese materia medica. Apothecaries are evidently a flourishing community in the Flowery Land. In the province of Se-Tchouan, which is one of the richest and most populous of the whole empire, the trade in drugs ranks second at the custom-house, being surpassed by the traffic in opium alone and yielding more revenue than silk. The Chinese are very fond of dosing themselves and of late there has grown a demand for European medicaments among the more enlightened classes.

XEROSTOMIA.

CASES of xerostomia, or "dry mouth," are so rare that every one is of interest. In the *American Journal of Medical Sciences* of March Dr. Thomas Harris of Manchester has published the following case. A woman, aged thirty-one years, had been troubled with dryness of the mouth for three years which followed a slight febrile attack believed to be influenza and was accompanied by swellings behind the angles of the jaw. The tongue was absolutely dry and fissured; the gums and cheeks were dry, but the soft palate though dryish presented a little sticky mucus. There was very perceptible enlargement of both parotid glands but not of the sublingual or submaxillary glands. Drugs (as usual) proved useless; faradaism and massage of the parotids appeared to give temporary relief, but so little that the patient discontinued the treatment. Nearly all the cases of xerostomia have occurred in the female sex and in persons of advanced years. Dr. Harris's patient was therefore exceptionally young. The enlargement of the parotids also is unusual though not without precedent. The pathology of the disease is at present a difficult problem. The view of Mr. Hutchinson, who first described the complaint, is that it is of nervous origin. The influence of the nervous system on the salivary as well as other secretions is well known. Though no doubt correct so far, this explanation requires elucidation. The cause and nature of the nervous derangement are not known. Why the parotid and not any other gland should in some cases be enlarged is obscure. Dr. Harris compares this enlargement specially affecting the parotid glands with the parotitis which Mr. Stephen Paget has shown to be connected with injuries and diseases of the abdomen and pelvis and in some way due to reflex nervous action. Dr. Harris, therefore, very properly concludes that the parotid enlargements in xerostomia are probably produced by the same nervous derangement which caused the arrest of salivary secretion. A

remarkable fact, to which Mr. Hutchinson has called attention, is that the failure of salivary secretion does not appear to prejudice the patients' digestion; it simply causes loss of taste and of enjoyment in eating.

"THE CRY OF THE CHILDREN."

INSTITUTIONS for the care of sick and suffering children must always command the sympathy of the public, and when we consider the mortality which prevails among those of tender years the practical need for such institutions becomes obvious. The diseases of children differ very little perhaps from those of adults, but they are often more difficult to understand and the bringing together of a large number of cases in one institution must work for the advantage both of the rich and the poor. At the present moment one of the largest and oldest of children's hospitals, that of Great Ormond-street, is in need of help in consequence of a forced outlay which the hospital could ill afford. The committee have been compelled to buy property adjoining the hospital in order to prevent their neighbours from building on it, a proceeding which would have greatly affected the healthiness of the hospital. This purchase, which has given a garden of nearly half an acre for the use of the sick children besides a building for housing the nurses, a problem which the hospital has hitherto been unable to successfully solve, has been made at a cost of £30,000, £10,000 of which are required on taking over possession. For the purpose of raising this last-named sum a dinner, at which the Bishop of London will preside, is to be held at the Hôtel Métropole on Thursday, April 28th, and we cannot but believe that the £10,000 will be forthcoming. As the Bishop of London points out in a letter to the press: "£10,000 is only 20,000 half-sovereigns after all, and there must be in this vast city 20,000 men and women to whom a sick and suffering child is more than the price of a stall at a theatre." But such a charity as the Hospital for Sick Children, Great Ormond-street, appeals so widely to all classes that we feel that attention need only be drawn to the fact that the hospital requires £30,000 to cause that sum to flow into the treasury.

THE NEW DIRECTOR-GENERAL OF THE NAVAL MEDICAL SERVICE.

WE congratulate Sir Henry F. Norbury, K.C.B., on his being promoted to his present post and we wish him every success in the discharge of his new duties. The Director-General brings with him an excellent reputation and a long and varied experience. His appointment is a popular one with the officers of his own service and, what is more to the point perhaps, we are glad to add, very deservedly so. He entered the Naval Medical Service in 1860 and after passing through its different ranks was promoted an Inspector-General of Hospitals and Fleets in November, 1894, and was made a K.C.B. on June 22nd, 1897. Sir Henry Norbury's service record is a good one, as will be seen by the following. He served as staff surgeon of the *Active* and was landed in medical charge of her naval brigade during the Kaffir War of 1877-78, and was mentioned in despatches and strongly recommended for promotion; served in the Transkei as senior medical officer of six different columns of troops and was present in numerous skirmishes, in the action at the Quorra River and at the battle of Quintana; was in medical charge of the naval brigade of the *Active* during the Zulu War, 1879; was principal medical officer of Colonel Pearson's column, being present at the battle of Inyezane, Jan. 22nd, 1879, and at the relief of the garrison of Ekowe, and was several times mentioned in despatches. He afterwards joined General Crealock's column as Principal Medical Officer of the entire Naval Brigade and advanced to Port Durnford; was twice mentioned in despatches, and promoted (Zulu medal and three clasps); C.B., Nov. 27th, 1879; Sir G. Blane's gold medallist, 1879. With such a record Sir Henry Norbury may at any rate fairly claim to know the requirements of the Service over which he has been called upon to preside and to be intimately acquainted with the duties, traditions, and feelings of its members.

AT a meeting of the Council of Bedford College, held on March 22nd, Mr. A. Bernard Cook, M.A., Fellow of Trinity College, Cambridge, was appointed to the Professorship of Ancient History; and Mr. H. W. Marett Tims, M.D. Edin., Lecturer on Biology and Comparative Anatomy at the Westminster Hospital Medical School, to the Professorship of Zoology, vice Professor W. B. Benham, D.Sc.

THE new Lunacy Bill, which was introduced into the House of Lords by the Lord Chancellor on March 25th, has now been printed. It provides for several interesting alterations in the existing law upon which we shall comment shortly.

THE paper which was announced to be read by Dr. W. J. Simpson on April 15th, before the Epidemiological Society of London, has been unavoidably postponed. There will therefore be no April meeting of the society.

THE General Medical Council have obtained a rule *nisi* for a *mandamus* calling upon the magistrate to show cause why he does not order William Maunsell Collins to abstain from using a title implying qualification to practise.

MR. HOPE MORLEY, the treasurer of the Royal Hospital for Diseases of the Chest, City-road, E.C., has contributed £500 to the Festival Dinner Fund.

THE INDIAN FRONTIER WAR.

THE campaign against the Indian border tribes may now be regarded as practically over. Before the tale becomes a closed book, however, and official terms used in regard to it are forgotten, as they soon will be, it seems fitting that as far as its medical history is concerned some of the facts connected with that expedition should be gathered together and placed on permanent record. We have striven to supply very briefly such information from time to time as would keep our readers *au courant* with the progress of the campaign; but the profession in this country will be interested in what their military *confrères* have gone through and with regard to how they have comported themselves on that remote frontier. A bare recital even of the facts may prove useful, moreover, for future guidance as to the hospital and medical requirements of frontier warfare on a large scale.

The Commander-in-Chief in India, Sir George White, in submitting General Sir William Lockhart's despatches describing the operations of the Tirah Expeditionary Force from Nov. 1st, 1897, to Jan. 26th, 1898, for the information of the Government of India, says: "No campaign on the frontiers of India has been conducted under more trying and arduous circumstances than those encountered by the Tirah Expeditionary Force. Its operations have been carried out in a country destitute of roads, the physical configuration of which is such as to present the maximum of difficulty to the movement of regular troops. The enemy were for the most part skilled marksmen, exceptionally active and well armed, and expert in guerilla tactics. While avoiding serious resistance to the advance of our troops they have lost no opportunity of harassing both on the march and in bivouac, a system of fighting admirably suited to the nature of the country and which has necessarily occasioned us considerable loss not only in action but also from toil and exposure."

We have already alluded to the great demands[1] which these operations made upon the medical direction, foresight, and administration of the army at headquarters and of the highly satisfactory way in which the onerous and responsible duties were carried out by Surgeon-Major-General Gore, the principal medical officer of Her Majesty's forces in India. These, it will be remembered, were specially referred to in the despatch of Sir George White, who added that "the results obtained in the treatment of the sick, and especially in surgical cases of wounds, have been most satisfactory." As regards the medical officers serving in the field General Sir William Lockhart states that they "fully maintained their high reputation by their attention to the sick and wounded under fire and in hospital. The hospital arrangements were generally excellent."

The following expeditions were organised and mobilised on the North-west frontier of India between June 28th and Oct. 19th, 1897:—Tochi, June 28th; Malakand, Aug. 8th; Kohat-Kurrum, Aug. 30th; Mohmund, Sept. 13th; Tirah expeditionary force, Oct. 11th; Kurrum moveable column, Oct. 19th; line of communication troops, Oct. 19th; reserve brigade, Oct. 26th; Peshawar supporting forces, Oct. 26th. There were in all these 63 581 British and native troops engaged, with 57,000 native followers. The *base* general hospitals (native and European) were mobilised at Kohat, Rawal Pindi and Nowshera, with rest depôts at Peshawar and other stations. These were capable of accommodating in all upwards of 3000 sick and wounded. The total *field* hospital accommodation provided for the troops and followers was at the rate of 12 per cent. On this basis there were 6526 available beds, including 36½ field hospitals. On Dec. 20th, 1897, the number of patients in hospital was at its highest and amounted to 11·16 per cent.

Sir William Lockhart, commanding the Tirah Expeditionary Force, makes the following mention of medical officers in his despatches:—

Surgeon-Major-General G. Thompson, C.B., Indian Medical Service, has been my Principal Medical Officer in the field and I desire to express my indebtedness to him and to the other officers of the department of which he has been in charge for the high state of efficiency in which it has been maintained often under very unfavourable conditions.

The Principal Medical Officer of the Force speaks in high terms of his Secretary, Surgeon-Major W. A. Morris, Army Medical Staff.

In the following list I include the names of the undermentioned officers whose good services came under my personal notice:—

Army and Personal Staff.

Surgeon-Captain J. C. Morgan, Army Medical Staff, Surgeon at Headquarters.

1ST DIVISION.

Staff.

Surgeon-Colonel E. Townsend, Army Medical Staff, Principal Medical Officer.

2ND DIVISION.

Staff.

Surgeon-Colonel G. McB. Davis, D.S.O., Indian Medical Service, Principal Medical Officer.

LINE OF COMMUNICATION.

Surgeon-Colonel W. E. Saunders, Army Medical Staff, Principal Medical Officer.
Surgeon-Lieutenant-Colonel H. Hamilton, Indian Medical Service.
Surgeon-Major S. F. Bigger, Indian Medical Service.

1ST DIVISION.

Regimental.

Army Medical Staff.

Brigade-Surgeon-Lieutenant-Colonel C. H. Swayne.
Brigade-Surgeon-Lieutenant-Colonel J. Ring.
Surgeon-Major H. B. Briggs.
Surgeon-Major T. M. Corker.

2ND DIVISION.

Army Medical Staff.

Surgeon-Major H. R. Whitehead.
Surgeon-Major W. C. Beevor.
Surgeon Captain J. J. Gerrard.

Indian Medical Service.

Surgeon-Major J. Shearer.

4th Brigade.

Army Medical Staff.

Surgeon-Lieutenant-Colonel G. C. Bourke. Surgeon-Captain C. H. Burtchaell.

Indian Medical Service.

Surgeon-Major T. Grainger.
Surgeon-Captain W. Selby.

KURRUM MOVEABLE COLUMN.

Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O., Indian Medical Service, Principal Medical Officer.
Surgeon-Major C. F. Willis, Indian Medical Service.

[1] THE LANCET, March 12th and April 2nd, 1898, pp. 744 and 953.

The following honorary commissioned, warrant, and non-commissioned officers have been specially recommended by General Officers and heads of departments:—

Medical Service.

First-class Assistant Surgeon D. F. O'Connor.
Second-class Assistant Surgeon W. C. M. Charters.
Third-class Assistant Surgeon W. G. St. John Hussey.

The following is a complete list of the *Medical Roll of Honour*—i.e., the names of medical officers mentioned in despatches from the front from the commencement to the close of the North-west disturbances in India.

TOCHI FIELD FORCE.

Surgeon-Colonel R. H. Carew, D.S.O.	Surgeon-Major H. C. Hudson.
Surgeon-Lieutenant-Colonel W. A. Simmonds.	Surgeon-Captain L. P. Mumby.
	Surgeon-Captain C. C. Cossidy.
	Surgeon-Captain F. R. Ozzard.

MALAKAND FIELD FORCE.

Surgeon-Colonel J. C. G. Carmichael.	Surgeon-Major C. R. Tyrrell.
Brigade - Surgeon - Lieutenant - Colonel F. A. Smyth.	Surgeon-Major S. Hossau.
Brigade - Surgeon - Lieutenant - Colonel A. S. Reid.	Surgeon-Captain H. J. M. Buist.
Brigade - Surgeon - Lieutenant - Colonel J. Ring.	Surgeon-Captain J. Fisher.
Surgeon-Lieutenant-Colonel J. T. B. Bookey.	Surgeon-Captain T. A. O. Langston.
Surgeon-Lieutenant-Colonel Z. A. Ahmed.	Surgeon - Captain H. F. Whitchurch.
Surgeon-Lieutenant-Colonel P. F. O'Connor.	Surgeon Lieutenant J. Hugo.
	Surgeon-Lieutenant W. Carr.
	Surgeon-Lieutenant E. L. Perry.

KURRUM-KOHAT FORCE.

Brigade - Surgeon - Lieutenant - Colonel W. R. Murphy, D.S.O.	Surgeon-Captain C. B. Prall.
Surgeon-Captain W. G. Beyts.	Surgeon-Captain H. Bamfield.

MOHMUND FIELD FORCE.

Surgeon-Colonel E. Townsend.	Surgeon-Captain J. B. Jameson.
Surgeon - Lieutenant - Colonel J. FitzWilliamson.	

SHABKADR.

Surgeon-Captain T. H. J. C. Goodwyn.

BUNER FIELD FORCE.

Surgeon-Colonel J. C. G. Carmichael.	Surgeon-Major C. W. Johnson.
	Surgeon-Major W. A. Sykes.

TIRAH EXPEDITIONARY FORCE.

Surgeon-Major-General G. Thomson, C.B.	Surgeon - Lieutenant - Colonel H. Hamilton.
Surgeon-Colonel E. Townsend.	Surgeon-Major W. A. Morris.
Surgeon-Colonel G. McB. Davies, D.S.O.	Surgeon-Major H. R. Whitehead.
Surgeon-Colonel W. E. Saunders.	Surgeon-Major W. C. Beevor.
Brigade - Surgeon - Lieutenant - Colonel C. H. Swayne.	Surgeon-Major J. Shearer.
Brigade - Surgeon - Lieutenant - Colonel J. Ring.	Surgeon-Major H. B. Briggs.
Brigade - Surgeon - Lieutenant - Colonel W. R. Murphy, D.S.O.	Surgeon-Major T. M. Corker.
Surgeon-Lieutenant-Colonel G. D. Bourke.	Surgeon-Major T. Grainger.
	Surgeon-Major S. F. Bigger.
	Surgeon-Major C. F. Willis.
	Surgeon-Captain J. C. Morgan.
	Surgeon-Captain J. J. Gerrard.
	Surgeon-Captain C. H. Burtchaell.
	Surgeon-Captain W. Selby.

THE OUTBREAK OF TYPHUS FEVER AT NOTTING-HILL.

IN his monthly report on the health of Kensington presented to the Kensington vestry on Wednesday last Dr. Orme Dudfield, the medical officer of health, gives a detailed account of the limited outbreak of typhus fever which has recently occurred in that parish. In all 14 persons were attacked, of whom 3 unfortunately died, including a young medical man (Mr. Albert Davis) who had attended some of the patients. There has been no death from typhus fever in Kensington since 1883, although in 1892 there were three cases of the disease which had been imported from Brentford. Definite knowledge of the present outbreak was first gained by Dr. Dudfield on March 21st through a communication from Mr. R. M. Bruce, medical superintendent of the Western Hospital, to the effect that Mr. Albert Davis, admitted on the 15th, and Mr. W. F——, an undertaker, admitted on the 19th—both of whom were at first thought to be suffering from enteric fever—were in his (Mr. Bruce's) opinion suffering from typhus fever. The same day Dr. Dudfield was notified by Dr. Potter, medical superintendent of the parish infirmary, of three cases of typhus fever—a man and his wife and child—who had been removed from Flat 19, Western Buildings, Ladbroke-grove, as cases of "influenza." They were at once transferred to the South-Eastern Hospital. On referring to

the weekly returns of deaths Dr. Dudfield found that at Flat 20, Western Buildings, a woman had died on Feb. 27th, her death being certified by Mr. Davis as "influenza (12 days), pneumonia (8 days)." A visit to these dwellings in company with Dr. Ensor (whose assistant Mr. Davis was) showed Dr. Dudfield that the two flats were on the same floor and closely contiguous, and inquiry proved that typhus fever had been present unrecognised in Flat 20 since Christmas. This flat, consisting of two rooms and a scullery, was then occupied by a family of eight persons, the father sleeping in the dwelling-room, the rest (mother and six children of ages from twenty to four years) sleeping in the bedroom, which would thus only allow of a cubic space for each of about 135 cubic feet. The atmosphere of the room was notoriously close and offensive and the conditions were just those which would favour typhus fever. One member of the family after another was attacked, the illnesses being in most cases regarded as "influenza." The first to fall ill was the father, T—— B——, aged forty-three years, who became unwell about Christmas Day, 1897, and who remained in a feeble condition until Jan. 22nd, 1898, when he was sent to a convalescent home. About this date his daughter, K—— B——, aged eight years, fell ill, and on Feb. 1st she was found to be suffering from pneumonia. The mother, K—— B——, aged forty-two years, was taken ill on Feb. 16th, her illness presenting symptoms like influenza; it ended fatally on the 27th as above stated. Three children, whose ages were eleven, six, and four years respectively, were ill about the same time. The eldest son, J—— B——, twenty years of age, sickened on March 12th and was removed to the infirmary on the 14th; he had a diffuse mottled rash, followed by purpuric spots, became delirious and comatose, and died on the 21st, his case being first regarded as one of "suppressed measles," but later as possibly "typhus." E—— B——, aged eighteen years, attacked about the same time, was also removed to the infirmary and was for three days in a comatose state, but she recovered. The last member of this family to fall ill was J—— B——, seventeen years of age, who was in service at Kilburn. She had attended her mother's funeral and had visited her brother and sister at the infirmary. She fell ill on March 18th and went home on the 20th; she was seen by Dr. Ensor and Dr. Dudfield on the 21st and her case being recognised as typhus fever she was sent to the South-Eastern Hospital. Mr. Albert Davis, aged thirty-three years, who had attended Mrs. B—— and her children, was attacked on March 9th, but he kept at duty till the 11th. On the 14th a suspicious, somewhat measly rash was noted, and on the 15th he was sent to the Western Hospital, but it was not until the 21st that it became certain that he was suffering from typhus fever. The pyrexia ranged between 105° and 103° F., and there was marked prostration and nervous depression with delirium, whilst the rash became petechial. He died on the 25th. Mr. W. F——, aged thirty years, an undertaker who assisted in coffining Mrs. B—— on March 1st, fell ill on the 10th, was delirious on the 17th, rash appearing on the 18th. He was removed to the Western Hospital on the 19th and in due course the rash became petechial, whilst the fever was marked by much nervous disturbance. He is now convalescing. Lastly, the family of three who occupied Flat 19 were attacked from March 15th to the 17th, the child, aged two years, first, the parents on the following day. They were all removed to the infirmary on the 21st and on the 22nd presented the well-marked features of typhus fever. No other cases have occurred since, so it may be hoped that the outbreak is at an end. Dr. Dudfield adds some judicious remarks upon the difficulties of diagnosing typhus fever, the rarity of which at the present day as compared with the comparatively common occurrence of influenza suffices to account for the erroneous diagnosis made in most of these cases in the first instance. He observes:—"Few doctors probably have seen the disease; last year only four cases were notified in London, a smaller proportion than one in a million of the population, and there was one death only attributed to this cause out of a total of 81,000 deaths. It deserves mention that once the true nature of the disease in the recent outbreak had been recognised, the doctors generally with praiseworthy candour recognised the mistakes and accepted without hesitation the correct diagnosis." He also comments on the satisfactory fact that the disease did not spread beyond those most directly exposed to the contagion—an immunity which he attributes to the generally improved conditions of the life of the people. The outbreak is a most instructive one and the manner in which its history has been fully traced reflects great credit upon Dr. Dudfield and his coadjutors.

THE BATTLE OF THE CLUBS.[1]

THE MANCHESTER GUILD AND THE NATIONAL DEPOSIT FRIENDLY SOCIETY.

SINCE our issue of Feb. 19th we have received a number of communications with reference to the above subject. One of our correspondents points out to us with regard to our condemnation of the society for, among other things, having no wage limit, that "if any one pays in for a higher rate of insurance than the minimum then the fees to the doctor are proportionately higher." This is quite true, and if our correspondent will refer to our issue of Jan. 1st, 1898, he will find that we mentioned this point as something in the society's favour, but we also said that there was nothing to prevent any one however well off from joining at the minimum rate and getting medical attendance for 2*s.* 6*d.* per annum. The following are the main features of Mr. R. H. Wolstenholme's article, to which we referred in our issue of Feb. 19th, 1898, p. 532. The society was founded in 1868 and registered according to Act of Parliament in 1872, and as affects the medical profession the chief features of its regulations are as follows:—

1. Any person between the ages of thirteen and fifty-five years, of whatever station in life and of whatever income, may join.

2. All persons desirous of joining must pass a medical examination. This includes a certificate, "That I have carefully examined —— and read the answers on the other side and am of opinion that —— should be classified as in —— health." This certificate requires a consideration of the man's family history, his past and present state of health, the dangerous or relatively dangerous nature of his trade or occupation, and a general consideration of his mode of life and habits. The fee for this examination and certificate is 1*s.*

3. All persons on joining must declare what amount of daily sick pay they wish to insure for. This cannot be more than 10*s.* per day, nor can a member insure for *more* sick pay per day than his daily income is, but he can insure for *less* and so obtain medical benefit at the "trade list" price even if he be a millionaire.

4. A certain proportion of the sick and medical pay is taken out of the money the member has *on deposit*. This is the central point of the scheme. It prevents "malingering" and it offers the patient a direct temptation of getting back to business again whether the doctor considers him fit or not. In fact it takes the "control" of the case out of the hands of the practitioner altogether. If the illness is a long one and the "deposit" is exhausted the member may "by grace" continue to receive half sick pay for a further time but the society ceases to be responsible for the doctor's fees although it has succeeded in lowering and fixing them.

5. There is no "club doctor" appointed, but any registered practitioner may attend provided he is willing to accept the scheduled list of charges, which charges include all club certificates, attendance, and medicines.

This list may be arranged as follows:—

	£	*s.*	*d.*
One visit for all distances under three miles, with medicine for two days	0	2	6
Intermediate visits in dangerous cases, per visit ...	0	1	0
Consultations at surgery and medicine for two days ...	0	1	6
Medicine, fresh supply for two days	0	1	0
Mileage for distances over three miles, per mile ...	0	0	6
Members assured for more than 5*s.* per day sick pay for every 1*s.* sick pay over 5*s.*, extra per visit	0	0	6

SURGICAL CASES.

All the major operations, each	5	0	0
Removal of cancerous or other tumours of magnitude...	3	0	0
Removal of small tumours	0	10	6

The charges to include apparatus, splints, medicine, and attendance for one month—if the patient die within thirty-six hours the fee to be reduced one-half.

There is no wage or income limit whatever, the only discrimination so far as the medical practitioner's charges are concerned is between those who are assured for 5*s.* a day sick pay and less and those who are assured for more than 5*s.* per day sick pay, but not exceeding 10*s.* per day. Thus a man whose income might be £1000 per year might for the purpose of getting "cheap doctoring" join this society, and if he only assured himself for 5*s.* per day sick pay his medical charges would have to be made out according to the above list.

Any practitioner may figure out for himself how this beautiful example of "thrift" would affect his own practice

[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1*s.*

if "universalised," and before connecting himself with this society Mr. Wolstenholme advised him to remember the boast of the general secretary that "the average medical pay per member only amounted to 2*s.* 0¼*d.* per annum, against 4*s.* per annum in many societies."

It must be remembered that the society declines to pay for the "results of profligacy and drunkenness," either of which elements enters, or might be taken to enter, into a very large proportion of cases of illness and the medical officer has the duty of reporting the cause of the illness. We are sure that Mr. Wolstenholme's criticisms—or rather statements—taken in conjunction with our own remarks in our issues of Dec. 11th, 1897, Jan. 1st, 1898, and Feb. 19th, 1898, will convince anybody that the attitude of the Manchester Medical Guild towards the National Deposit Friendly Society was perfectly justified.

THE WALSALL MEDICAL SOCIETY.

We have received a letter from a correspondent detailing certain occurrences in connexion with this society and enclosing a copy of a letter which a member of the Walsall Medical Society is said to have addressed to the secretaries of sundry friendly societies. The letter in question is certainly not one which should have been written, but we cannot advise our correspondent as to any action which might be taken in the matter.

PROVIDENT DISPENSARIES IN MANCHESTER.

At a meeting of the Manchester and Salford Provident Dispensaries Association held on March 15th a proposal was made that any district dispensary might increase the charge for a prescription from one penny to twopence. Mr. Broadbent and Dr. Gallard opposed this resolution on the grounds that by raising the fees they would eliminate the poorer members who would apply for relief and confine the benefits of the association to those who were really able to pay the ordinary fees of a medical man. The resolution was passed and Mr. Broadbent thereupon intimated that he had done with the association. The chairman said that any person, medical officer or not, could complain if they thought that anyone who was not entitled to do so was receiving aid from the association. Thereupon the case would be investigated by an independent authority. He denied that the association was abused in the manner suggested by Mr. Broadbent.

THE FRIENDLY SOCIETIES' MEDICAL INSTITUTE AT GREAT YARMOUTH.

The first annual meeting of the managing committee of the Great Yarmouth Medical Institute was held on March 25th at the Friendly Societies' Hall. The secretary reported that the "steps taken by the several societies to establish a medical institute have proved a complete success." He also stated: "We shall be no doubt some time before we are free of debt." There were 22,885 attendances at the institute, 18,244 prescriptions had been dispensed, and 8919 visits had been paid by the medical staff, which apparently numbers two practitioners. The balance-sheet, according to the report in the *Eastern Daily Press* is as follows:—Assets: cost of alterations and fittings, £163 1*s.* 9*d.*; furniture, gas, electric light, &c., £94 9*s.* 1*d.*; drugs, surgical instruments, dispensary requisites, &c., £101 19*s.* 6*d.*; cash to balance at bank, £10 0*s.* 1*d*; cash debit balance, £153 12*s.* 1*d.*; total, £523 2*s* 6*d.* Liabilities: due to Messrs. Barclay and Co., £300; loans, £160; due to tradesmen, £38 2*s* 6*d.*; due to treasurer's and secretary's salaries, £25; total, £523 2*s.* 6*d.* As far as we can see the medical officers and the dispenser get nothing at all and sundry other people are owed a good deal. The balance-sheet does not seem financially satisfactory.

CHELTENHAM GENERAL HOSPITAL.—The annual meeting of this hospital was held on March 16th under the presidency of Colonel Croker-King. The financial statement showed that the receipts for 1897 were £5015 and that the expenditure amounted to £5852, which was increased to £6558 by the expenses of the branch dispensary. There were 904 admissions of in-patients and 8749 out-patients were attended, being an increase of 232 over the previous year.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Upon the Occurrence of Certain Cases of Enteric Fever in Six Sanitary Districts of Essex and Suffolk and upon Oysters in relation thereto,[1] by Dr. G. S. BUCHANAN.—This inquiry was ordered by the Local Government Board as a result of a report received from Dr. J. W. Cook, medical officer of health of certain urban and rural districts in East Essex. Dr. Cook entertained suspicions "that enteric fever recently occurring among a number of persons resident within the area under his charge had resulted from eating oysters brought into his district from outside sources. Also Dr. Cook stated in regard of certain other recent sufferers by enteric fever not resident in his district that allegation had been made as to their having become infected similarly by eating oysters partaken of within one of the districts for which he acts as medical officer of health. In all the above instances in which oysters had been under suspicion of having caused enteric fever, these shellfish had come, so far as Dr. Cook had been able to ascertain, from Brightlingsea, an urban district outside the area for which Dr. Cook is medical officer of health." The matter thus involved an inquiry over an extensive area. The places in which fever cases were investigated were comprised in six districts—namely, Clacton-on-Sea, Walton-on-the-Naze, Haverhill, Braintree, Lexden and Winstree, and Tendring. In all, 26 cases were inquired into. Dr. Buchanan's procedure was in each instance to make certain of the accuracy of diagnosis, of the date of onset of illness, of the facts and dates as regards oyster eating, and lastly of the "conditions, *irrespective altogether of oysters*, to which the sufferer had been subjected antecedent to attack and which could be thought of as possibly concerned with the causation of his fever." All 26 cases were ascertained to have in fact suffered from enteric fever and all had consumed oysters shortly before the onset of illness. Space does not permit an account of the circumstantial evidence obtained in each case. We may, however, briefly refer to the history of an excursion of some 250 young people from Haverhill, a town eighteen miles from Cambridge, to Clacton-on-Sea on Aug. 23rd. Between Sept. 7th and 10th no fewer than 9 of these excursionists were attacked by enteric fever. No cases occurred in Haverhill among persons who had not been on the excursion and this town had during July and August been altogether free from the disease. As the evidence was thus unmistakeable that infection had in these cases been contracted on the day of the excursion, articles of food and drink consumed on that occasion by the sufferers were inquired into in detail. All the 9 patients were found to have eaten oysters, but as far as could be ascertained they had partaken of no other article of food or drink in common. 8 of the 9 had, however, eaten ice-cream. But in Braintree, in Essex (where there had been no cases of enteric fever since the beginning of the year), 2 persons, who also had made a day's visit to Clacton-on-Sea on the date in question, Aug. 23rd, fell ill with enteric fever on Sept. 6th. Neither of these persons had eaten ice-cream at Clacton-on-Sea, while both had eaten oysters there. In the course of a summary of this part of the inquiry Dr. Buchanan states the facts obtained in this wise:—"Among inhabitants of, and visitors from certain districts to, the limited area comprising the town of Clacton-on-Sea, Walton-on-the-Naze, and the parish of St. Osyth, the total of persons heard of as having been attacked by enteric fever during the months in question (i.e., June 1st to Oct. 31st) was 26. All these 26 persons had consumed oysters, in each instance about a fortnight before the onset of illness—on one of the few days, that is, on which, at the ordinary reckoning of the incubation period of enteric fever, they must be thought to have received their infection." In view of the fact that a not inconsiderable proportion of the population in question may be considered to be addicted to oyster-eating the possibility that this circumstance was due

[1] London: Eyre and Spottiswoode, East Harding-street. Edinburgh: John Menzies and Co. Dublin: Hodges, Figgis, and Co. 1898. Price 9*d.*

to a mere series of coincidences requires to be discussed. But if so a remarkable coincidence must have occurred in 100 per cent. of cases. "It was, indeed, manifest," Dr. Buchanan states, "that I could find no warrant for invoking such an extraordinary freak of chance in explanation unless I were in position to show that some agency or agencies of infection other than oysters had with great likelihood operated to produce all, or at least a majority, of the 26 cases in question." Evidence of the operation of agencies of infection other than oysters proved, however, in every case to be entirely negative, and the conclusion is therefore drawn that "apart from any question of the origin of the particular oysters implicated, or their history prior to reaching the persons consuming them, the facts appeared to afford very definite indication that in these 26 cases oysters had operated as the agency of infection." The second section of the report is a record of inquiries of retail oyster-vendors and middlemen with a view to tracing the implicated oysters to wholesale merchants. In at least 25 of the cases it transpired that the shellfish in question had come from Brightlingsea, while in 21 instances they could be traced to particular oyster-merchants who own layings in Brightlingsea Creek. The third section describes the oyster-layings in this creek and their liability to pollution by sewage. We learn here that matters have not amended since Dr. Bulstrode in 1895 demonstrated the risk to which oysters laid on the Brightlingsea foreshore are liable. The position of the various layings in relation to the outfalls of the Brightlingsea sewers, which without any preliminary treatment discharge their contents into the tidal water of the creek, is illustrated by a map which itself is enough to indicate the risk involved by the present state of affairs. The next step was inquiry as to the particular oyster-merchants believed to have supplied implicated oysters. Dr. Buchanan then found that in all but one doubtful instance oysters supplied by these merchants came from one or other of two layings situated on a part of the foreshore conspicuously exposed to sewage pollution. Finally, inquiries made as to the existence of enteric fever in Brightlingsea during the period in question left "no doubt that from time to time between April and November Brightlingsea sewage contained admixture of infectious matter derived from enteric fever patients." Dr. Buchanan discusses with caution the likelihood that from time to time during the period in question persons other than those whose cases he investigated had swallowed infectious Brightlingsea oysters, and so had been exposed to definite risk of contracting enteric fever. He finds some grounds for inference that such has actually been the case.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6998 births and 4635 deaths were registered during the week ending April 2nd. The annual rate of mortality in these towns, which had been 21·8 and 20·2 per 1000 in the two preceding weeks, rose again last week to 21·5. In London the rate was 21·6 per 1000, while it averaged 21·4 in the thirty-two provincial towns. The lowest rates in these towns were 14·7 in West Ham, 15·3 in Huddersfield, 15·5 in Croydon, and 15·6 in Gateshead; the highest rates were 24·4 in Leeds, 24·9 in Birkenhead, 25·6 in Swansea, and 30·7 in Liverpool. The 4635 deaths included 538 which were referred to the principal zymotic diseases, against 555 and 550 in the two preceding weeks; of these, 226 resulted from measles, 126 from whooping-cough, 64 from diphtheria, 49 from scarlet fever, 39 from diarrhœa, and 34 from "fever" (principally enteric). No death from any of these diseases was recorded last week in Blackburn; in the other towns they caused the lowest death-rates in Preston, Nottingham, Portsmouth, and Cardiff, and the highest rates in Newcastle-upon-Tyne, Bristol, Leicester, and Brighton. The greatest mortality from measles occurred in Newcastle-upon-Tyne, Swansea, Halifax, Leicester, Bristol, and Brighton; from scarlet fever in Birkenhead; and from whooping-cough in Plymouth and Salford. The mortality from "fever" showed no marked excess in any of the large towns. The 64 deaths from diphtheria included 45 in London, 4 in Birmingham, 3 in Leicester, and 3 in Sheffield. No fatal case of small-pox was registered during the week under notice either in London or in any other of the large towns; and no small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 2nd. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2377, against 2445, 2419, and 2371 on the three preceding Saturdays; 239 new cases were admitted during the week, against 197, 255, and 191 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 430 and 402 in the two preceding weeks, rose again to 451 last week, and were 39 above the corrected average. The causes of 53, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Oldham, Sunderland, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Bradford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·1 and 22·9 per 1000 in the two preceding weeks, rose again to 24·2 during the week ending April 2nd, and was 2·7 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Greenock and 20·0 in Aberdeen to 26·2 in Paisley, and 30·6 in Perth. The 729 deaths in these towns included 23 which were referred to measles, 21 to whooping-cough, 17 to diarrhœa, 12 to scarlet fever, 5 to "fever" (principally enteric) and 4 to diphtheria. In all, 82 deaths resulted from these principal zymotic diseases, against 74 and 73 in the two preceding weeks. These 82 deaths were equal to an annual rate of 2·7 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 17 and 25 in the two preceding weeks, declined again to 23 last week, of which 20 occurred in Glasgow and 3 in Edinburgh. The 21 deaths referred to whooping-cough were within 4 of the number recorded in the preceding week and included 14 in Glasgow. The fatal cases of scarlet fever, which had been 10 and 7 in the two preceding weeks, rose again to 12 last week, of which 8 occurred in Glasgow, where 4 of the 5 deaths referred to "fever" were also registered. The fatal cases of diphtheria, which had declined from 7 to 3 in the three preceding weeks, were 4 last week, of which 2 occurred in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 161 and 175 in the two preceding weeks, further rose to 178 last week, and were 32 above the number in the corresponding period of last year. The causes of 52, or more than 7 per cent., of the deaths in the thirty-three towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 37·6 to 29·5 per 1000 in the three preceding weeks, rose again to 35·1 during the week ending April 2nd. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 32·4 per 1000, the rate during the same period being 21·7 in London and 20·3 in Edinburgh. The 235 deaths registered in Dublin during the week under notice showed an increase of 37 upon the number in the preceding week, and included 20 which were referred to the principal zymotic diseases, against 17 and 11 in the two preceding weeks; of these, 5 resulted from whooping-cough, 4 from diphtheria, 4 from "fever," 4 from diarrhœa, 3 from scarlet fever, and not one from small-pox or measles. These 20 deaths were equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·0 in London and 0·9 in Edinburgh. The deaths referred to whooping-cough, which had been 3 in each of the two preceding weeks, rose to 5 last week. The 4 fatal cases of diphtheria considerably exceeded the number recorded in any recent week. The deaths referred to different forms of "fever," which had been 7 and 6 in the two preceding weeks, further declined to 4 last week. The 235 deaths in Dublin last week included 37 of infants under one year of age, and 57 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the numbers recorded in the preceding week.

Ten inquest cases and 5 deaths from violence were registered; and 85, or more than a third, of the deaths occurred in public institutions. The causes of 26, or more than 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL ERNEST H. FENN, C.I.E., from Scots Guards, to be Surgeon-Lieutenant-Colonel, vice Surgeon-Major W. R. Crooke-Lawless, who exchanges. Surgeon-Major Edward D. Farmar-Bringhurst retires from the service receiving a gratuity. Surgeon-Major Goggin is posted to Dublin for duty. Surgeon-Major Birrell has proceeded from Shorncliffe to Hythe to take charge of the Station Hospital *pro tem.* Surgeon-Major H. L. Battersby having resumed medical charge of the Station Hospital, Dover Castle, Surgeon-Major White has taken over medical charge of staff and departments. Surgeon-Major G. Wilson has embarked for service in Sierra Leone.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas Holt, M.B. Aberd., 2nd Volunteer Battalion the East Lancashire Regiment, to be Surgeon-Captain. Surgeon-Lieutenant G. R. J. Fletcher resigns his commission. Surgeon-Lieutenant George Melville, M.B. Edin., 6th Volunteer Battalion the Royal Scots (Lothian Regiment), to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Banff: Surgeon-Captain W. Fergusson, M.D. Aberd., to be Surgeon-Major. *Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Major H. Wright to be Surgeon-Lieutenant-Colonel. 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Edmund Frederick Bindloss, to be Surgeon-Lieutenant. 4th Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant C. E. Lister resigns his commission.

DEATHS IN THE SERVICES.

Surgeon-Lieutenant-Colonel Robert William Troup, Retired List, A.M.S., at Dover, on the 28th ult., in his fifty-seventh year. He entered the Service as assistant surgeon in September, 1863 and served with the Royal Artillery in the left column Dooar Field Force of the Bhootan expedition of 1864-65; was present at the capture of Fort Dalimkote and the stockades of Nagu and Chamoorchi (medal with clasp); was present with the 42nd Highlanders at the battle of Amoaful in the Ashanti War of 1874, at the capture of Becquah, at the battle of Ordahsu, and at the capture of Kumasi (medal with clasp). He also served in the Egyptian War of 1882 and was present at the action of Kassasin and at the battle of Tel-el-Kebir (medal with clasp and Khedive's Star).

Brigade-Surgeon Humphrey Carden Gillespie, Retired List, A.M.S., at Richmond on the 22nd ult. He joined the army in the latter part of 1864, became surgeon in 1873, surgeon-major in 1876, and retired with the honorary rank of brigade-surgeon in 1884. He served in the Afghan War, 1878-80 (medal).

ROYAL PRESENTS TO THE ROYAL VICTORIA HOSPITAL, NETLEY.

As a memento of the visit which Her Majesty and Princess Henry of Battenberg recently paid to the Royal Victoria Hospital they have forwarded to Surgeon-Major-General W. Nash, M.D. Edin., the principal medical officer, a number of gifts which have given very great pleasure both to the officers of the medical staff and to the patients under treatment.

Surgeon-Major Sylvester, A.M.S., has been ordered to report himself at Netley for duty at an early date.

Surgeon-Captain F. Smith is under orders to proceed from Netley to the West Coast of Africa.

THE DUKE AND DUCHESS OF MARLBOROUGH will on Thursday, May 12th, visit the colony established by the National Society for Employment of Epileptics at Chalfont St. Peter, when the Duke will lay the memorial stone of a home for epileptic boys and Her Grace will open the Victoria House, one of the homes for epileptic men. On the same occasion Mrs. Passmore Edwards will lay the foundation stone of a new home for epileptic girls.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—I reluctantly take any part in the discussion on the Midwives Registration Bill which has been going on in your columns for some weeks past, but there are statements made by Dr. Cullingworth in his recent letter which I cannot allow to pass in silence. Dr. Cullingworth says that the title, "Midwifery Nurses Bill," was proposed by those who were of opinion that the women to be legislated for should not attend a confinement "except under the personal supervision of a practitioner." I was one of the first to advocate the use of the words "midwifery nurse," but I never objected to properly trained women attending labour cases alone, and that this was so is obvious from the fact that for the greater part of my professional life I have been engaged in training these women, and at the present time there are some hundreds of them practising as midwives who have been specially trained by me to do so, but I have in no way altered my opinion that the word "nurse" should be introduced into any Midwives Bill.

I deny that "the reason for the introduction of the word 'nurse' has disappeared" and Dr. Cullingworth's own letter shows that the reasons why it be retained are in full force. He says its introduction signified a "limitation of responsibility" and further on that "to call her a nurse—with whatever qualifying adjective—is to confound one who has independent charge with one who has not." I was under the impression that everyone was of opinion that these women should not be "independent" and that their "responsibility" also should be strictly defined and limited, and if the introduction of the word "nurse" into the Bill tends in this direction that in my opinion is a strong "reason" in its favour. Even if the Bill were to pass in its present form these registered midwives would be "independent" only as far as that they will be permitted to stand by and see the woman delivered by her own unaided efforts. If the word "independent" has any meaning at all in reference to these women it implies that they may deliver the woman when and how they like. Does Dr. Cullingworth desire this?

Dr. Cullingworth tells us he is responsible for the drafting of the Bill. Is it possible that he intends it really to create an "independent" order of midwifery practitioners who will be wholly unfitted by reason of their limited training for such a position? I have never laid much stress on the argument which is embodied in the resolution of the Council of the Obstetric Section of the Royal Academy of Medicine which appears in your issue of April 2nd, that "the Bill would tend to create a new and inferior order of practitioners hurtful to the interest of the profession and dangerous to the public," but I am bound to say that Dr. Cullingworth's letter as officially explaining the objects of the promoters of the Bill has materially altered my opinion in this respect and if the insertion of the word "nurse" tends to lessen the risk of such a misfortune from occurring as is expressed in that resolution it would be an additional reason in its favour. Dr. Cullingworth states that "a midwife and nurse exercise different functions and receive a different training," and yet in a footnote adds "that her functions include a certain amount of attendance on mother and child during the lying-in period." Will Dr. Cullingworth explain in what capacity? It must either be as a "practitioner" or as a "nurse." If as a nurse she certainly should be trained and registered as such; as she is not to be trained and registered as a nurse it would seem that the Bill is really intended by its promoters to make her a practitioner.

But I contend that all these women should be trained as nurses and midwives. If they are not it is the fault of those who undertake to teach them. The Rotunda Hospital was amongst other things formed for the purpose of training women and for 150 years has continuously done so, but they have been always trained as midwives and as midwifery nurses, and in the certificates given them they are described as "midwives and nurse-tenders," "nurse-tender" being synonymous with "monthly nurse." These women receive

a training certainly not inferior, probably superior, to that attainable elsewhere, yet during my long professional life I never met with one capable of acting "independently"; they are fully qualified to act as midwives in natural cases, generally are capable of detecting abnormal presentations, &c., and are trained to, and invariably do, send for aid when that is needed; but they are, moreover, good nurses and tend their patients as such for some days subsequent to labour. Why is this impracticable in England? Are the women more stupid or the teachers less efficient? But be the cause what it may the lying-in woman must suffer. The dangers of parturition do not end with delivery. Very many lives of both mothers and infants are lost from causes arising subsequently to delivery and capable of prevention, from mere want of cleanliness, from septic poison, from the use of septic cloths applied to the vulva, especially where laceration has occurred, &c., from the failure of the attendant to recognise at an early date symptoms which, had it been otherwise, might have led to treatment ere it was too late, not to speak of minor ills so numerous and so distressing to mother and child. I hold that no woman should be registered as a midwife who is not trained also as a "midwifery nurse." It is on this point mainly that I am at variance with the promoters of the Bill. If they really desire to benefit poor lying-in women they should accept this as a cardinal principle.

What benefit will accrue to poor lying-in women if this Bill becomes law? The midwife would walk away with her fee as soon as the child was born and placenta removed. She will be no nurse and will be taught to despise that calling. She is not a trained practitioner so would be useless if any bad symptoms appeared; the poor patient would be left to be managed or mismanaged by some old crone or kind neighbour. Of what use, then, will the midwife be? I presume though "independent" she will not be legally and certainly not by training qualified, to use the forceps, to turn, to perforate, &c. She is supposed to deliver the patient; in point of fact she merely sees the woman deliver herself and any other woman could do that as well as the "registered midwife."

The profession in London has so much to be proud of in the splendid hospitals and in the reputation of the men attached to them that they might without loss of dignity learn something from neighbouring countries. In France the midwife has a training vastly superior to anything in this country. If she is to be "independent" here let the example of France be copied; if not, and that it be really intended to benefit the poor, let the example set in Ireland be carefully considered. There is not a town there, and but few country districts, in which women trained as "midwives and nurses" are not to be found following their calling with success. Medical practitioners raise no complaint because these women very rarely presume to go beyond the limit they are trained not to exceed.

If the promoters of the Bill desire to benefit the poor they will adopt the suggestion that these women be trained and registered as "midwives and midwifery nurses." If they do so opposition to the Bill will be materially lessened. If they refuse it will be difficult to believe that the good of the poor is the sole object in view.

I am, Sirs, yours faithfully,

April 4th, 1898. LOMBE ATTHILL, M.D. Dub.

SOME POINTS RELATING TO VACCINATION AS ILLUSTRATED BY OBSERVATIONS DURING THE PRESENT EPIDEMIC IN MIDDLESBROUGH.

To the Editors of THE LANCET.

SIRS,—It happened to me some weeks ago to conduct (by courtesy of the late medical officer of health of Middlesbrough) some medical friends round the small-pox hospital, and one of them, an able and intelligent practitioner, propounded to me the question, "Are the patients vaccinated on admission here?" I found that his idea was—and he stated that it was by no means peculiar to himself—that vaccination so late as the prodromal or even during the early eruptive stage modified the attack of small-pox. So far as I have been able to learn during this epidemic this is so far from being the case that it by no means infrequently happens that vaccination even during the early incubatory period fails to modify the disease. It is to suggest this and some other considerations regarding vaccination that I venture to submit notes of a few cases which appear to me to be of interest. Many cases bearing on the same point which have been spoken of to me, but which have not come under my own observation, I refrain from alluding to. The use of the term "vaccinated" in these notes implies that the operation was successful and that glycerinated calf-lymph was used.

CASE 1.—The patient was exposed to infection from a brother about Feb. 4th to 8th; vaccinated Feb. 9th. The eruption appeared on Feb. 17th and the case was a severe one.

CASE 2.—A married woman showed a variolous eruption on Feb. 7th. Her husband was vaccinated the next day and on Feb. 21st he developed the eruption of variola. His case, however, was a mild one.

CASE 3.—A child showed a variolous eruption on Feb. 5th and two days later the rest of the family were vaccinated. The mother alone did not take, but was revaccinated a week later with success. On Feb. 20th she developed the eruption (variola). I have not heard of any other members of the family contracting variola since then.

CASE 4.—A child, aged seven years, vaccinated (for first time) on Feb. 16th, was seen on Feb. 24th with well-marked confluent eruption of variola.

CASE 5.—A man developed variolous eruption on Jan. 29th. His wife, having at first refused, was revaccinated on Feb. 15th, aborted on Feb. 22nd, developed eruption the next day, and died on Feb. 26th from malignant small-pox. The fœtus, about eight months, was dead but free from any eruption.

CASE 6.—A child, aged eight years, vaccinated on Feb. 11th, on Feb. 25th developed well-marked variolous eruption.

CASE 7.—A child, aged 7 years, vaccinated (for first time) on Feb. 19th. Variolous eruption appeared on Feb. 25th and she died from confluent hæmorrhagic small-pox.

CASE 8.—A married woman, vaccinated in infancy (4 marks), and again about 1895 (2 marks), developed well-marked, but not severe, discrete small-pox in February of this year.

CASE 9.—A child, aged 10 years, was vaccinated on Feb. 12th; a dark red rash appeared on her on Feb. 28th, followed in a couple of days by the ordinary papular eruption of small-pox.

CASE 10.—The patient was vaccinated on March 7th. Variolous eruptions appeared on March 15th. Mild case.

CASE 11.—A child, aged 3 years, was vaccinated on March 3rd. Variolous eruption appeared on March 16th.

CASE 12.—A married woman was vaccinated on Feb. 12th (2 places). On March 6th she consulted Dr. A—— for papular eruption on the wrists and fingers only, attended with much itching but with no feeling of illness. Dr. A—— called in Dr. B—— to see her and she was sent to the Small-pox Hospital the same day. On the 14th she was discharged. On the 19th she again sent for Dr. A——, said she had contracted a chill on leaving the hospital and was suffering from severe pains in the limbs. On the 22nd I saw her and she had developed a papular rash on the face, hands, and trunk. Seen the same evening by Dr. A—— and Dr. B—— they took the same view of the case that I did and she was again removed to the small-pox hospital. I have detailed this case at some length, not so much because it illustrates the occasional extreme difficulty of diagnosis as because it affords a rare instance of small-pox following upon vaccination successfully performed well before the incubation period of the disease could, according to our present ideas, have commenced.

If these few cases, Sirs, (roughly jotted down under pressure of work as they have been), can elicit any information as to the extreme limit of the incubation period, the apparent anomaly of the conditions produced by vaccination and the disease of small-pox (two supposedly antagonistic processes) pursuing simultaneous and independent courses in the body of a patient they will not have been recorded in vain.

Another matter which it would be of great value to have settled as definitely as possible is as to how long it may be before a person, vaccinated after exposure to the disease, should be considered safe as regards that particular exposure, and I would suggest that it cannot be fixed at less than sixteen or seventeen days.

I am, Sirs, yours faithfully,

T. A. COLLINSON, M.R.C.S.Eng., L.R.C.P.Lond., &c.

April 2nd, 1898.

THE OPEN-AIR TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the papers by Dr. Burton-Fanning on the above subject in THE LANCET of March 5th, 12th, and 26th.

I am in full accord with the principle laid down by him of the absolute necessity for the open-air treatment of phthisis, to which, in my opinion, should be added a very large and generous dietary. For many years I have acted on these principles and in 1892 I started phthisical patients in a farmhouse in the north-eastern district of Norfolk. The particular neighbourhood I have selected has a very low rainfall, the climate is distinctly bracing, and the soil is light sand and gravel with a substratum of ragstone. Norfolk enjoys with Suffolk the distinction of having more sunshine than any other part of the British Isles. Since 1892, when my first patient was placed there, I have had in all 17 cases. Of these 4 have died since they left the farm and 4 are still

living there and are improving steadily. Of the remaining 9, 8 have returned to their ordinary occupations, whilst the ninth is still undergoing treatment in Germany. They are all doing well and holding their ground. Of the 4 deaths 1 had general tuberculosis, 1 was very far advanced, 1 succumbed to subsequent influenza, and the fourth, after having gained in weight considerably and improved greatly in general condition, failed after working sixteen hours a day in a gassy atmosphere all last winter on insufficient food. The point on which I wish to lay particular stress is that these are hospital patients and that the charges are within reach of a very large number of the poorer classes of the community.

I am, Sirs, yours faithfully,

Gower-street, W.C., March 29th, 1898. JANE H. WALKER.

COLLAPSE FOLLOWING LAPAROTOMY.

To the Editors of THE LANCET.

SIRS,—In Allbutt's "System of Medicine" Dr. Cobbett has well demonstrated the etiology of collapse from the experimental side. I propose to supplement this from the clinical standpoint. For some time I have been of opinion that shock—i.e., reflex inhibition—by no means satisfactorily accounted for the collapse which may follow the simplest laparotomy. The nature and length of the operation do not necessarily indicate the amount of the subsequent collapse. Like Dr. Cobbett, without wishing to deny the action of nervous reflexes, I regard the loss of fluid resulting in failure of the circulation as the prime factor. After pointing out the evident loss of fluid in cases with diarrhœa and vomiting he goes on to say: "On the other hand, it is not so obvious that the collapse which may follow abdominal operation and which accompanies peritonitis is associated with a similar inspissation of blood and tissues. For although the appearance of the patient suggests such a change yet there is no evident loss of fluid sufficient to account for it." After every laparotomy there is within a short time an effusion of fluid into the cavity of the peritoneum and if excessive is evidenced by dulness in the flanks, changing with position. This effusion is often unnoticed because the disturbance and movement necessary to demonstrate it are bad for the patient. The amount of the effusion would seem to depend on many factors, among others the amount of fluid in the patient's tissues, the capacity of the peritoneal cavity and the damage done to the peritoneum. If the patient has lost much fluid either by hæmorrhage or by vomiting and diarrhœa a comparatively small further loss such as a peritoneal effusion is more than likely to produce collapse. Clinically the symptoms of loss of fluid and loss of blood are difficult to distinguish. I have seen two cases within a fortnight of severe collapse a few hours after laparotomy. The question of internal hæmorrhage was raised and decided in the negative. One case recovered, the other died, and at the necropsy the peritoneum was found full of blood from a vessel in the pedicle the ligature of which had slipped. I never appreciated the amount of fluid which might be effused after laparotomy till I had an ocular demonstration in a case of ruptured tubal pregnancy which, owing to the patient at first declining operation, had been leaking intermittently into the peritoneum for a fortnight. The woman was considerably blanched, the abdomen contained handfuls of clot, and the operation being complicated by cysts of both ovaries took one and a half hours, at the end of which time her pulse, stimulated by strychnine and ether, was, everything considered, very fair. Four hours later she became collapsed and died in spite of intravenous infusion of saline solution, bandaging limbs, &c. On reopening the abdomen immediately after death the peritoneum was found to be filled with pints of a watery, blood-stained fluid; the blood-stain was explained by the discovery of several large clots (overlooked at the operation) in the region of the liver. The ligatures were intact. It was this loss of fluid in a patient whose blood and tissues had been inspissated by recent severe hæmorrhage that mainly brought about the fatal result. The benefit of intravenous injection of saline solution in cholera is only transient, the loss of fluid continuing, and the same might be expected of saline solution injected into a vein if the fluid is shortly poured out into the peritoneum. Intravenous injection if continuous might, by filling up the peritoneal cavity as well as the tissues, save some of the less severe cases, but takes too long. It would seem reasonable, therefore, with a patient who has lost much fluid before closing the abdomen to fill the peritoneum with hot fluid such as sterilised water, salt and water, or other watery solution—the exact constitution matters not provided it is unirritating and sterile—the object of this being not to supply the patient with fluid *viâ* the peritoneum, which is a well-known mode of treatment, but by filling the peritoneum with fluid to impose a mechanical obstacle to any great flow of fluid from the tissues into the peritoneal cavity. The tendency of the peritoneum, at any rate immediately after laparotomy, is to exude fluid rather than absorb it. Absorption of the fluid occurs later. The mass of hot fluid in the abdomen also acts as an internal hot-water bottle and tends to prevent adhesions. Firm bandaging of the abdomen would help to limit, but would not obviate the effusion of fluid. If the patient tends to be collapsed at the end of the operation saline solution should also be injected intravenously. The ordinary treatment to sustain the body temperature must be carried out simultaneously. Stimulants in the shape of brandy and strychnine, well diluted, may be given in the intravenous injection — a method of administration not sufficiently utilised, ensuring as it does direct passage of the stimulant into the circulation.

I am, Sirs, yours faithfully,

C. HAMILTON WHITEFORD, M.R.C.S. Eng., L.R.C.P. Lond.,
Medical Officer to the Provident Branch of the
March 27th, 1898. Plymouth Public Dispensary.

*** We do not understand whether our correspondent has himself had experience of the intravenous injection of brandy and strychnine or not? The practice is surely not free from risk, whereas almost as speedy results may be obtained by the less severe measure of hypodermic injection. ED. L.

"HOSPITAL ABUSE."

To the Editors of THE LANCET.

SIRS,—The committee of St. Catherine's Home feel it a duty to reply to certain mis-statements regarding this charity which appear in an article on Hospital Abuse in Bradford in THE LANCET of March 26th. The writer of that article states that St. Catherine's Home (referred to as the Cancer Home) "is associated with the name of Dr. Rabagliati" and goes on to "question whether medical men should be allowed to start hospitals," and to ask, "Who can draw the line between a charity started because there is a genuine public need for such relief or an institution needed only in the imagination of a few medical men desirous of securing staff appointments?"

The facts are as follows. St. Catherine's Home was "started" five years ago by a few ladies who, during other work among the poor, had long felt the urgent need of a home for dying patients for whom other hospitals can do nothing and who are therefore sent out to die as best they can. Especially in the case of cancer patients was this a crying need and therefore St. Catherine's Home has always given the preference to sufferers from cancer although when there is room no dying case is refused. That any medical man should expect to gain advantage, honour, or glory from the cure of dying patients in a hospital where there are no operations and practically no recoveries it is somewhat difficult to see, unless through green spectacles. No medical man had any part or share in originating St. Catherine's Home or in its subsequent management, which is entirely in the hands of a committee of ladies. From its opening until now only one medical man has been connected with the home—viz., Dr. Walter Denby—who has filled the position of honorary surgeon with a kindness gratefully acknowledged by the committee and certainly with no thought of personal advantage. In view of the contemplated removal of this home next June into the larger building now being prepared by the generosity of Mr. Canthra, and the consequent probable increase in the number of patients, two new medical appointments have just been made, one of these being that of Dr. Rabagliati to the post of honorary consulting surgeon. Neither of these appointments, however, takes effect until next June, nor have the names of the new honorary surgeons appeared as yet on any document connected with this home]

The committee repeat emphatically that this home exists in the interest of no medical man or men, unless perhaps "only in the imagination" of some distorted mind. It exists in response to a long-felt and sore need, which need it strives with some success to fill. With regard to the rest of your article doubtless the other charities mentioned will have their own remarks to make. It is much to be regretted that your representative did not choose more wisely his informant. That informant would do well to study certain lines of the late Lord Tennyson concerning something "that is half a truth."

Signed on behalf of the committee.

SUSANNAH BOTTOMLEY, President.
HELEN P. RABAGLIATI, Hon. Secretary.

March 31st, 1898.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague.

A PRECONCERTED riot by the Mohammedans in Bombay against all Europeans was precipitated by a local opposition to a search party on Wednesday morning, March 9th. The fanatical rising spread rapidly throughout the city and for two or three hours until the military arrived no European was safe in the streets. Wanton and cowardly attacks on defenceless European men and women occurred in different parts of the city. The disturbances were attended by the deaths of several Europeans and a large number of natives. The whole work of the Plague Committee was practically suspended for the day. Large search parties with adequate military protection have, however, since examined the disturbed quarters and numerous cases of plague have been discovered in addition to many of the wounded rioters who had hidden themselves away. It will be realised that the European medical officers as well as the nurses are carrying on their already dangerous duties under great risk of personal injuries. It is intended that the measures hitherto adopted shall be continued, but the search parties will for the future be protected by detachments of soldiers.

The daily records of plague have for the present been entirely upset, but those to hand unfortunately show that it continues as rife as ever and that the total mortality averages over 300 a day—a rate of 136 per 1000 per annum.

Some attempt has been made to improve the system of death certification in consequence of from 60 to 70 deaths being recorded daily which have escaped all observation of the Plague Committee.

As any interference with a body after death is contrary to the religious feelings of both Hindoos and Mohammedans, and as the masses of these people rely solely on their own domestic remedies and seldom seek the medical advice of even their own hakims, efforts have been made to get the leaders of the different castes to appoint reliable persons who will be able to give a fairly satisfactory account of the causes of death, so that, as far as possible, every sick person shall come under observation. A misinterpretation of these efforts is said to have accounted for much of the present disturbance.

An important proposal is made by Dr. Thomas Blaney of Bombay. It is that a conference or congress of the medical profession in India should be called in Bombay city for next December, having for its main object the consideration of the most appropriate measures for dealing with plague epidemics in Indian cities, towns, and villages. As the value of quarantine compared to its destructive influence on trade is questioned, and as many of the other measures adopted are also of questionable value, a conference of this kind might prove of considerable assistance to the Indian Government in their arrangements for future outbreaks. Several cases of small-pox of a very severe type are being sent daily into the fever hospital.

In the Punjab the plague seems to be spreading—26 villages in two of the districts having been infected. There is no knowing how many more of the surrounding villages have caught the infection. In other places it seems to be dying out.

March 19th

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Mersey Port Sanitary Authority.

DR. HOPE, the medical officer of health of the city and port of Liverpool, in his report for 1897 to the port sanitary authority stated that during the year, owing to the existence of plague in India and small-pox in some Spanish ports, both of the assistant medical officers of health were constantly engaged in the tidal inspection of ships from the beginning of April. The work of those gentlemen had been carried on in conjunction with the officers of customs, who are the first to receive intimation of sickness on board any vessel approaching the port, either by telegraph from Point Lynas or from Moville or Queenstown. It is recorded that not only were fewer defects per vessel examined found, but that the number of notices served upon owners under the Public Health Act had been only about half the number served in the preceding year, indicating a readiness to comply with the requests made by the inspectors. This result may have been probably due to the fact that many of the vessels had been examined before and that matters requiring attention had been already remedied. During the year the inspectors visited 5775 vessels; 87,414 emigrants left the Mersey during the year, as against 98,271 in the previous year.

Death of Mr. James Johnson, M.R.C.S. Eng., L.S.A., of Bootle.

Mr. James Johnson, who formerly practised in the neighbourhood of Liverpool, died at Breezehill, Bootle, on the 2nd inst. in his eighty-seventh year. Mr. Johnson, who retired from practice in 1872 and was consequently but little known to the present generation of Liverpool practitioners, was in his time a foremost figure in medical circles and in Liverpool and county society. He was a native of the north of Ireland and soon after settling in Liverpool he was appointed surgeon to the Kirkdale Gaol, a post at that time in the gift of the county justices. He resigned that office in 1872. For a number of years he regularly attended the meetings of the county justices in order to present his report on the sanitary condition of the gaol and the health of the prisoners. The late Earl of Derby, Lord Cross, &c., placed great confidence in Mr. Johnson's judgment, his suggestions being invariably acted upon.

Ladies' Charity and Lying-in Hospital.

Dr. Arthur J. Wallace has been appointed hospital medical officer to the Ladies' Charity and Lying-in Hospital, vice Dr. Glynn Whittle, whose term of office has expired. Dr. Wallace is also one of the anæsthetists to the Liverpool Royal Infirmary.

April 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

University of Aberdeen.

THE graduation ceremony in the Mitchell Hall, Marischal College, on the 1st inst. was notable in respect that for the first time in the history of the University there were women graduates, four ladies receiving the degree of M.A. As remarked by Principal Sir William Geddes, lady students had specially distinguished themselves last session, as shown by the class prize lists. He further mentioned that Lady Geddes is successfully promoting a scheme for a residential hall for women students. The degree of D.Litt. was also conferred for the first time, the sole recipient being Mr. James Moir, LL.D., one of the joint-rectors of Aberdeen Grammar School. The degree of M.D. was conferred in ten cases, that of M.B., Ch.B. (new ordinances) in twenty-six, and that of M.B., C.M., (old ordinances) in seven cases. Among those who received the honorary degree of LL.D. was Mr. Charles Chree, M.A., Sc.D., Superintendent of Kew Observatory, Richmond. A well-attended and successful "reception" took place in Marischal College on the same evening. There were twenty-four entrants at the recent medical preliminary examination.

April 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Sanitary Association.

THE council met on the 31st ult. at the offices of the association, and after the final consideration of the Local Government Bill decided to make representations to the Chief Secretary of Ireland on the subject of the appointment of sanitary officers on county councils.

The Irish University Question.

A manifesto has been issued by the authorities of the Irish Presbyterian Church in which they re-affirm their views that the non-sectarian system of education is the system best adapted to the circumstances of the country and protest against any re-arrangement of Irish University education which would endow, through higher education, the Roman Catholic religion or set up a university or college for one denomination. They review fully the various solutions of the vexed questions of university education in Ireland, such as (1) the reconstruction of the Dublin University, making it the one national university of Ireland; (2) a Roman Catholic College affiliated to the Dublin University; (3) a Roman Catholic College in connexion with the Royal University; (4) two universities in Ireland, a Roman Catholic University, with the Dublin University made the one university for all Irish Protestants; and (5) three universities in Ireland, the Roman Catholic University, the Dublin University, and a northern university, or the Royal University, reconstructed to meet the wants of Presbyterians. Rumours are still current in Ireland that Mr. A. J. Balfour is anxious to settle the question of university education in Ireland, but many feel he will have a very difficult task before him.

Londonderry Lunatic Asylum.

At a meeting of the Coleraine Board of Guardians held on April 2nd the following resolutions were passed:—"1. That from the report of Dr. Hetherington, resident medical superintendent of Londonderry Lunatic Asylum, it appears that there are 456 patients in it, all in the enjoyment of good health, and should the Local Government Bill for Ireland receive the sanction of the British Parliament there cannot be a doubt that one of the workhouses of the county could be obtained for an auxiliary asylum, which without any difficulty would provide accommodation for more than one-half the inmates of the present asylum. 2. In the event of one-half of the inmates being transferred we can see no reason whatever for the erection of a new asylum and we would protest against a moribund body, such as the Board of Control, exercising the power of laying oppressive taxation on the ratepayers of this county (Derry?) by the erection of an expensive and unnecessary asylum. 3. As we understand that no contracts have been entered into we hope the chief secretary will take further steps to prevent the Board of Control from proceeding further in the matter and we would entreat him to take powers under the Local Government Bill to amalgamate unions and take over the control of the lunatic asylums, paying all expenses connected with them from the Imperial Exchequer." There is a very strong feeling that owing to the heavy way in which County Derry is taxed at present, and also from the circumstance that the new Local Government Bill will provide for auxiliary asylums by utilising some of the workhouses, further provision for lunatics in new asylums should not be made at present. Another reason urged against the new Derry asylum is that it will be situated at one end of the county. I am afraid, however, that matters have gone too far (the ground for the new asylum being bought) to stop the erection of the new building.

The late Mr. Henry Bingham, M.D., R.U.I.

It is with very sincere regret that I announce the death of this well-known Belfast medical practitioner, which took place at his residence in that city early on Tuesday morning, March 29th, at the age of fifty years, from cardiac asthma. His death, as he had only been ailing for a short time, came as a surprise to the public, but not to his intimate friends in the medical profession, to whom it was well known that for several years he was suffering from a gradually advancing heart affection. Dr. Bingham was born at Crossgar, co. Down, fifty years ago. He was for several years engaged in teaching most successfully in Belfast, but having a taste for the medical profession he entered Queen's College, Belfast, where he was a very successful student, and graduated M.D. of the old Queen's (now the Royal) University in 1878, and in 1893 he became a L.R.C.S. Edin. He also studied at the London Hospital. Beginning practice nineteen years ago in Mountpottinger, on the south side of the river which divides Belfast, he rapidly, by his sterling abilities, genial disposition, and extreme kindliness, gained a very large *clientèle*. He was at the late local Belfast municipal elections nominated for one of the wards and, although unsuccessful, he polled a very large number of votes. His friends feared that to one like him with a damaged heart the excitement of such a contest was very prejudicial. Dr. Bingham was greatly respected by his medical brethren and was a member of Council of the Ulster Medical Society. He was buried on March 31st, his funeral being very largely attended by his medical friends. Several of those in practice in his own district acted as pall-bearers. He leaves a widow and one son (who is studying at Queen's College). Dr. Bingham was a very great favourite both with the public and with the medical profession. He was an Irishman to the tips of his fingers, genial, kindly, social, and humorous, and ready always to help those in difficulties. It is given to few men to be more popular than the late Henry Bingham was.

April 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Orthoform.

ORTHOFORM, a new antiseptic and anæsthetic compound obtained by Dr. Einhorn, has been tried in the surgical polyclinic of Munich, by Dr. Kallenberger, who in his report communicated to the *Berliner Klinische Wochenschrift* says that it is a fine white powder, not hygroscopic and very little soluble in water. It is quite harmless to the animal organism, as injections of from 4 to 6 grammes given to animals did not produce any toxic symptoms and external applications of 60 grammes in a week had no ill effect on the human subject. Its anæsthetic value is proved by the fact that the ends of the nerves with which it comes into contact are rendered insensible. By its want of solubility it is unable to act through the skin or through the mucous membranes, but it has a marked anæsthetic action in wounds, burns, ulcers, &c. Its effect is of much longer duration than is that of cocaine, which, owing to its solubility, is easily absorbed. Orthoform is also a powerful antiseptic. Pieces of rabbit's muscle sprinkled with it did not show any putrefaction. It has been used in a great many surgical cases with successful results. Its anæsthetic action developed in from three to five minutes and was perceptible after thirty-five hours—in some instances even after four days. To ascertain whether the anæsthesia was really due to the orthoform it was several times given alternatively with other substances, such as iodoform, boric acid, &c., the effect being that the patients who hitherto had not complained of any pain at once began to feel it. Orthoform has the power of diminishing the discharge from wounds. If required it may be applied in the form of ointment, especially to burns. Dr. Kallenberger describes the effects produced by its use in several cases of wounds, carcinomatous and syphilitic ulcerations, and burns. He mentions that applied after the extraction of teeth it is a good anæsthetic, and he suggests that it may supply the place of morphia after accidents.

An Outbreak of Enteric Fever.

Last February enteric fever of an extremely severe type suddenly appeared among the men of the regiment of infantry in garrison at Saarbrücken in Rhenish Prussia, attacking nearly 300 men within a few days, and proving fatal to 33 of them. The barracks being of recent construction and provided with modern hygienic arrangements it was at first a matter of surprise to the medical officers of the garrison to see the epidemic spread in such a rapid way. A special commission, presided over by Dr. von Coler, the chief of the Army Medical Service, and consisting of four members of the Army Medical Department, who by special order of the Emperor were joined by

Dr. Gerhardt, professor of clinical medicine at Berlin University, succeeded in tracing the source of the infection. They ascertained that only those men who had taken part at a dinner given in honour of the Emperor's birthday became ill, whilst those who were elsewhere on that occasion were not attacked. It was further ascertained that a man who had come from a place where enteric fever was prevalent had helped the cook in preparing a potato salad, and this man, who a few days afterwards was the first to fall ill, had evidently conveyed the germs to the potatoes, which are known to be one of the best media for the cultivation of the bacilli of enteric fever. The sudden and rapid development of the epidemic was therefore clearly explained.

Remedies against Gout.

Saligenin, a compound obtained by Dr. Loderer, has been successfully administered in gout by Dr. Walter of Sulzbach, Bavaria. According to a communication published by him in the *Münchner Medicinische Wochenschrift*, saligenin removes the pain, swelling, and fever of gouty arthritis in a short time. Its action is more powerful and of longer duration than that of salicylic acid, whilst the undesirable effects of the latter, such as digestive troubles, cyanosis, and tingling in the ears, are avoided. It is easily soluble in water. Three grammes a day as a rule are sufficient. Another compound producing nearly the same effect is hexamethylentetramin or urotropin, by which uric acid is easily dissolved. Urotropin, which is also termed aminoform, may be used as a prophylactic by persons of gouty constitution, and it is said that if two grammes are taken in a glass of water every morning for several months there will be no subsequent fits of gout.

Tuberculous Growth of the Pleura.

In the *Zeitschrift für Klinische Medicin* Dr. Askanazy describes two cases of pulmonary tuberculosis combined with pleurisy where the necropsy showed the pleura to be converted into a yellow tumour-like mass several centimetres in thickness, resembling a malignant growth. It did not look like tubercle, especially as it appeared to be somewhat solid, but on microscopical examination tubercle bacilli were found. Dr. Askanazy therefore concludes that a tumour-like form of tuberculosis exists which microscopically does not differ from the usual forms. The specimen described had no tendency to softening but, on the contrary, showed fibrous metamorphosis, to which its unusual solidity was attributable. Probably the tumour-like form of tuberculosis is due to an infection of minor virulence.

April 4th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Seamy Side of Medical "Charity."

LET it be admitted at once that the Italian system of providing the poor with medical or surgical relief is defective; that, for instance, the "ambulanza," where such relief is to be had, is often so far from the patient's house or place of work that he loses valuable time in going to it; that in consequence the treatment cannot be followed up with that regularity which ensures success; and that the "ambulanza" itself, as regards resources and working staff, is seldom equal to the many demands made on both. But it is one thing to recognise a defect and another thing to seek to remedy it by means as faulty in a different way; and this, it would appear, is the case in many populous centres of Italy. The "means" referred to is the institution by private speculation of an "ambulanza medica presso la farmacia" (a medical consulting-room, in fact, attached to the druggist's shop), at which for a very small charge the poor patient gets advice and medicine, the charge covering both the "consultant's fee" and the pharmacist's service. One suspicious fact about this "speculative ambulance" is that it is generally the pharmacist who "runs" it, the "medical man" being subordinate—so "subordinate," in fact, that his possession of the due qualification is sometimes difficult to check or ascertain. No doubt the conjoint fee, in which the "medical" and pharmaceutical services are lumped together, is a small one—small enough to tempt the poor man to incur it rather than lose half a day's work by going to the regular but often very remote "ambulanza" furnished by the town or commune. But the system throws wide the door to others besides the poor labouring man; it is, in fact, utilised by a public often quite well enough off to pay the regular practitioner's fee and the druggist's bill into the bargain. But for this public which poses as poor and gets its advice and medicine at a fourth of the regular charge it is difficult to see how the "ambulanza medica presso la farmacia" could be conducted without loss. If the druggist finds it pay the "medical" partner to the speculation must be a "quantité négligeable." The whole system, under the guise of charity, seems a thinly-veiled replica of the "'cross-counter therapeutics" so prevalent and often so disastrous in Italy, while it undoubtedly encroaches on the province of the duly qualified and often struggling practitioner. So much is this felt to be the case that in Milan, I hear, the "Ordine dei Sanitari" (Guild of Medical Men) are taking steps for the summary suppression of the "ambulanza medica presso la farmacia" and Government is being memorialised to act, through the prefects, in the direction indicated. The system (widely prevalent, it would appear) is admitted even by its defenders to be a "speculazione privata," justified, however, by the difficulty of dealing medically with the really poor. It offers, however, too many facilities for irregular practice, demoralising, if not dangerous, to the public and grossly injurious to the medical profession. The Government, it is felt, are bound to put a stop to it, if equally bound to give medical relief to the really poor in a legitimate way.

Fatal Blunder and Severe Punishment of an Unqualified Assistant Druggist.

At Padua a case for some days before the law-court has aroused much interest in the medical and pharmaceutical worlds as well as among the general public. The facts were these. Signor Aristide Risi, suffering from typhoid fever, was attended by Dr. Borgherini, who in course of treatment had occasion to prescribe a clyster containing a due proportion of carbolic acid in solution. The prescription was sent to be made up at the pharmacy of Signor Angelo Cecconi, who, however, happened for the time to be off duty. In his absence it was made up by a "commesso" (boarder), one Attilio Jublin, a fourth-year's student in pharmacy, by whom the carbolic acid was added to the clyster in such excess that poor Risi died. The fact produced a strong impression, Risi being a well-known citizen with a wife and family, and Cecconi head of one of the chief druggist's establishments in Padua. The widow raised an action against him for "omicidio colposo" (culpable homicide) and the case, conducted by distinguished counsel on both sides, occupied several days in hearing. The sentence, awaited by a crowded audience with much impatience, was to the following effect. Jublin was condemned to 100 days' imprisonment, while Cecconi was absolved; both, however, were held liable in costs and in damages (the amount of which I have not yet heard) to the widow Risi. The case, indeed, offers tragic illustration of what may spring from the abuse commented on in THE LANCET of March 5th, p. 685—the abuse whereby pharmacists, absenting themselves from duty, leave their place to be supplied by unqualified assistants. This is all too frequent a practice in Italy and ought to give the travelling public pause before entrusting its health (or life) to the "consultant pharmacist," who is so apt to be "represented" by an assistant as ignorant of drugs as his master is of clinical medicine.

The Traffic in Mineral Waters.

Not an hour too early the Government has intervened to protect the public against the dangers arising from "irregularities" (to put it mildly) in the mineral water trade. Italy is exceptionally rich in natural beverages, alkaline or acidulated, and the demand for them, particularly on the part of the travelling world, often and justly suspicious of the so-called "acqua potabile," threatens almost to exceed the supply. Adulteration has accordingly thrust its contaminating finger into many a favourite "natural water" and the frequency with which the sanitary officer at the instance of the public analyst impounds whole consignments of this or that well-advertised beverage attests at once the vigilance of the hygienic authority and the need for its exercise. Apart, however, from adulteration there are other sources of danger to the public health in the mineral

water trade and it is at them that the Government is striking an opportune blow in the circular it has addressed to the prefects of the localities in which such water abounds. These functionaries are henceforth to make provision: "that the conditions surrounding the source present no danger to the public health; that the source itself is protected against infiltrations from the neighbouring soil; and that the conducting-pipes and reservoirs are proof against all external contact." Furthermore, the said prefects are to see "that the bottles and corks or stoppers are sterilised; that the workmen employed at the source shall not suffer from 'malattie trasmissibili' (infective diseases); and that the places for sterilisation and bottling shall be separate from those in which the packing and forwarding operations are carried on." In all cases in which those precautionary regulations have not been observed the water is to be declared "insalubre e nociva" (unwholesome and prejudicial to health) and excluded from commerce in terms of Art. 42 of the Public Health Act.

April 2nd.

Obituary.

GEORGE FREDERICK HELM, M.A. CANTAB., M.D. DUB., F.R.C.S. ENG.

DR. G. F. HELM died suddenly on March 31st, whilst in a cab in which he was being driven to his residence at Marazion, Cornwall. Dr. Helm, who was the son of the late Rev. Joseph Helm, formerly vicar of Worthing, received his medical education at St. Bartholomew's Hospital and Cambridge University, and also studied for a time at Paris. He graduated M.A. Cantab. and M.D. Dublin in 1867, having taken the F.R.C.S. Eng. in 1863. The deceased was formerly house surgeon at St. Bartholomew's Hospital, and was for three years demonstrator of anatomy at the Cambridge University Medical School. Dr. Helm was for several years medical officer to Rugby School, but he resigned the appointment owing to ill-health. He then settled at Marazion, and was elected ophthalmic surgeon to the Royal Cornwall Infirmary, Truro, and he soon established a large consulting practice in West Cornwall. The deceased was a keen cricketer, and had been a member of the Cambridge University team. He was also an active member of the Penzance board of guardians. Dr. Helm, who was in his sixty-first year at the time of his death, was held in the highest esteem in West Cornwall and great regret is felt at his sudden demise.

JAMES ROBSON, L.S.A., J.P., OF SOUTH SHIELDS.

THE death is reported of Mr. James Robson of South Shields at the age of nearly eighty years. Mr. Robson had practised actively in South Shields for a period of nearly sixty years, first in partnership with his uncle, Mr. Emery, and afterwards on his own account. He had a large colliery practice as well as a good private practice. He was a great rider and being very methodical in his work found time, without ever neglecting his patients, to get a day's hunting or some other form of recreation. Even when failing health came he did not give in, but persevered in pursuing a more or less active life, including in the day's work a dip in the open sea, in accordance with the fashion of his native town, and to this practice he attributed a decided improvement in his health and in the tone and action of his heart. Ten or eleven years ago he retired from practice, but in the town council and on the Bench he took an active and useful part in the town and remained comparatively active to the end. During the recent severe weather he went to see the effects of the storm on the north pier at the mouth of the Tyne and contracted a severe bronchitis which proved fatal. He was greatly respected and beloved and will be much missed. He leaves a widow and a son and daughter who in their loss will enjoy the sympathy of the inhabitants of the town which he served so well.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

AT the special session of the Council held on Tuesday, April 5th, Sir William Turner was elected by a unanimous vote President of the Council in succession to the late Sir Richard Quain. Sir William Turner's connexion with the Council has been long, while his grip of its business and his knowledge of its methods have been perfected by his recent occupation of the chair during the illness of the late President, when he gave evidence of possessing that blend of firmness, clearness, and courtesy which are the qualities needed for his new post. His residence in Edinburgh accentuates the compliment paid him by the confidence of the Council.

Dr. McVail's proposal that the Council should not discuss the Midwives Bill having found but little favour, that difficult measure came up for discussion in full conclave. Our report leaves the matter in a very interesting stage, but although many things have been said by many members which invite editorial comment we prefer to await the close of the debate before expounding its lessons to our readers.

TUESDAY, APRIL 5TH.

A special session of the General Council of Medical Education and Registration, summoned to elect a President in place of the late Sir Richard Quain and to consider the Midwives Registration Bill, was opened to-day in the hall of the Council, Oxford-street, London. Sir Richard Thorne Thorne and Dr. P. Heron Watson were unavoidably absent. Sir DYCE DUCKWORTH, Senior Treasurer of the Council, was elected temporary chairman.

Dr. JAMES LITTLE was introduced to the Council as Crown Representative for Ireland.

The Business of the Session.

Sir DYCE DUCKWORTH said: Gentlemen, we meet in a special session to-day, and must all feel that this assembly takes place under the shadow of a great loss, the loss of our President, Sir Richard Quain, our leader and our friend, who had been longer and more intimately bound up with the work and interests of this Council than any other member of it. It is not for me, however, but it will be for his successor, whom we must presently elect from our body, to make at some future time appropriate and worthy reference to the character and services of our late President. As your senior executive officer it appeared to be my duty to summon you for a special meeting in order to fill the vacant presidential chair. The circumstances of the case in this respect alone appeared to me to justify such a course, and others of my colleagues were also of this opinion. But had our late President been amongst us it would have been imperative for him to summon a special meeting of the Council at this time to consider the provisions of the Midwives Bill, in obedience to a recent request from the Privy Council that our body should furnish it forthwith with its opinion thereon. We could not therefore have delayed to meet till our ordinary assembly at the end of May. There is then abundant justification for this special meeting, and I may express the hope, which I think will be generally entertained, that if possible, we should complete our business at to-day's sitting.

Election of President.

Sir DYCE DUCKWORTH: I have to announce that I have received notice of the following motion, moved by Mr. Teale and seconded by Dr. Bennett: "That Sir William Turner be elected President of the General Medical Council." I have therefore to call upon Mr. Teale.

[At this stage of the proceedings Sir William Turner left the Council chamber.]

Mr. TEALE: I have much pleasure in rising to propose that Sir William Turner be elected our President. If we consider Sir William Turner's very strong qualifications for

this post, if we look them over one by one I think we should find that they are exceptionally strong. In length of service he is one of the oldest members of this Council. But length of service would not of itself justify our making such an appointment. I think those of us who remember Sir William Turner's work here—I think I am the oldest of his colleagues—all feel that throughout the whole of his period of membership he has been a very prominent, a very strong, and a very helpful member of this Council. He has been on the Executive Committee since 1887, he has been on the Business Committee since 1892, and he has recently acted as temporary President in a manner which has commended itself, I think, to every member of the Council. He was entirely our presiding officer at the last session. He has therefore acquired a great deal of knowledge of the work which has to be done by the President. He has been brought into close contact with our late President, Sir Richard Quain, and he has no doubt thereby added to his great experience of the work of the Council. In addition we have in Sir William Turner a gentleman who has apart from this Council had enormous experience in public work. As a professor in the University of Edinburgh he is one of the most prominent and active members of the executive of the University and some years ago he was a member of the Royal Commission on the Medical Acts which led to the Medical Act of 1886 under which we now act. Therefore in the matter of experience and knowledge we have in Sir William Turner an exceptionally likely person for President. Apart from all these considerations there is a collateral, or rather an accidental, advantage in our being able to find in Sir William Turner one who is a member of the Scottish Branch Council. This Council is not an English council, it is a council of Great Britain and Ireland; and it is not an undesirable thing that now and then this more imperial character of the Council should be emphasised by going outside England for a President. All these things being considered, I feel I shall carry the Council with me in proposing Sir William Turner as a strong man—a man who will guide our counsels with a firm hand and a gentle touch.

Dr. BENNETT: I desire to second the motion, although I should have preferred that the duty had been performed by some member of greater experience in the Council than myself. I have only been just a year on the Council, but I may say that it is at the request of the Irish members of the Council that I second the nomination.

Sir DYCE DUCKWORTH said that on the last two occasions when presidents were elected the decision of the Council was arrived at by show of hands. Of course it was quite open to them to proceed in another way—by ballot, but he thought after the speeches they had heard and the way they had been received they might proceed as before by show of hands.

Mr. BROWN said he should like to know over what period the election extended.

Mr. BRUDENELL CARTER, on a point of order, said that the Council had no power to elect a President for a longer period than that for which he sat as a member of the Council, and in the case of Sir William Turner he would sit as a member of the Council until Dec. 18th, 1901, which was the limit of time for which they could elect him.

Mr. BROWN said his view merely was that the period should be less than five years.

The motion was then put to the Council and a show of hands being taken Sir DYCE DUCKWORTH declared it to be carried.

Accompanied by his proposer and seconder Sir William Turner returned to the Council chamber, when it was announced to him by Sir DYCE DUCKWORTH that he had been elected President *nemine contradicente*.

Sir WILLIAM TURNER, having taken the chair, said: I think I need scarcely assure you how grateful I feel for this mark of your confidence. No member of a professional body but must feel gratified when his colleagues in that body elect him to the position of their President. All of us who are members of corporations, medical and surgical corporations, and who have filled the presidential chairs of those corporations, I am quite sure, felt at the time of their election how gratifying it was to be chosen; but how much more so must this be the case in a body like this General Medical Council — the supreme administrative body in our profession, formed not merely of members of one corporation, but representative of the universities, of the great medical and surgical corporations, representative, I may say also, of the Crown and of the profession generally. It is the highest position which any member of the medical profession can hope to reach, and I should be profoundly ungrateful to you, gentlemen, if I did not feel fully the sense of your graciousness and also the sense of the responsibility which you have imposed upon me, because the office of President of the Council is, I think I may say so, becoming more and more as years go on a position of greater responsibility. The Council is consulted by the Government. It is brought into close and immediate relation with all the great educational bodies in the country and its duties are all of an arduous and onerous description. When I look back to the year 1873, the year I entered this Council, I was then in a body which had as its President Sir George Paget representing on the Council the University of Cambridge. It was two years under his presidency. He was succeeded by Sir Henry Acland, and with the exception of three years when I was out of the Council I sat under his presidency for the fifteen years that he occupied the chair. Then followed Mr. John Marshall, and lastly our President who has just left us. When I look back upon all these distinguished men I feel that I have had a training in the work of the Council, that I have been associated with men who made it one of the great objects of their lives, one of their highest duties, that they should do their work as Presidents of this Council fully and faithfully. I hope to follow in their footsteps, and I can assure you, gentlemen, that in assuming the responsibility which you have imposed upon me I do it with a due intention of discharging my duty here to the best of my power.

The Late Sir Richard Quain.

The PRESIDENT said he felt sure they ought not to proceed to any other business without referring to the death of their late President and expressing their sympathy with his family in the bereavement they had sustained. He would suggest that they should allow a small committee to be appointed in order to prepare a proper minute on this matter, and if they would entrust it to Sir Dyce Duckworth, Mr. Carter, and himself they would see to it. They would bring up the minute for approval to-morrow.

This suggestion was at once adopted by the Council.

Midwives Registration Bill.

The next business was to receive and consider a report from the Midwives Bill Committee arising out of communications from the Privy Council in regard to the re-introduction into the House of Commons of the Midwives Registration Bill of last session. The first of the two communications, dated Feb. 15th and signed by Mr. C. L. Peel, secretary of the Council, was as follows:—

> Referring to my letter of the 20th November last on the subject of the Midwives Registration Bill of last session, I am directed by the Lord President of the Council to state, for the information of the General Medical Council, that the Bill was re-introduced into the House of Commons on Friday last by Mr. J. B. Balfour and is put down for second reading on 11th May. I am therefore to request that you will move the General Medical Council to favour the Lord President with any observations they may desire to offer thereon at the earliest possible moment. I am to add that the new Bill has not yet been printed, but that his Grace is informed that it is absolutely identical with the Bill of last session, a copy of which is transmitted herewith for reference.

A second letter, dated March 15th, recalled attention to the foregoing and requested that the Registrar should move the General Medical Council to furnish the Lord President with any observations they might desire to offer on the Bill "with the least possible delay."

The PRESIDENT said that the committee on the Bill had prepared a report. He was sure that they all regretted to hear of the reason of Sir Richard Thorne's absence. Sir Richard Thorne, who was chairman, had been absent from two of the meetings of the committee, but Dr. Glover, who signed as acting chairman, had taken charge of the report and would now bring it before the Council.

Dr. GLOVER in moving that the report be received and entered on the minutes regretted the absence of Sir Richard Thorne, who had been present at their first meeting. He regretted it because of Sir Richard Thorne's position in the profession and the Council and because he was an eminently fit and proper person to introduce the subject. He assumed that the Council had received the Bill and knew something of its contents, and as to the recommendations of the committee respecting it he would postpone going over these until his formal motion had been adopted.

Dr. ATTHILL seconded the motion, which was agreed to. The report contained the following:

General Description of Bill.

In a prefatory memorandum to the Bill it is stated that its chief object is "to enable the public, and especially such of the poor as are in the habit of employing midwives, to distinguish between those midwives who have been trained and have given evidence of being competent for their duties and those who have not."

The Bill, however, does not contain any provision forbidding the practice of the latter class and thus entirely fails to give that protection to the poorer classes from the risks which they incur at the hands of ignorant women professing to act as midwives, to which protection the Council have always contended they are entitled.

The only justification of such legislation as is contemplated in the Bill is that it will tend to protect lying-in women from the hands of the incompetent. Unless the failure of the Bill to do this can be corrected by such amendments as are suggested below the passage of it would, in the opinion of the Committee, be a retrograde measure tending to the degradation of midwifery as an art and to a continuance of the present preventable mortality of lying-in women.

Under Clause 2 the term "midwife" is defined to mean "a woman who undertakes to attend cases of labour in accordance with the regulations to be laid down under the Act." Persons of the male sex are excluded by this definition; it also excludes the prefix "natural" before the word "labour," the insertion of which was considered necessary by the Council in 1896.

By reason of this omission from the definition the Bill proposes to give a legal status to a new order of practitioners in midwifery, who are women not properly qualified to take sole charge of midwifery cases, and thus directly contravenes the Medical Act (1886), 49 and 50 Vict., cap. 48, by which no person can be registered to practise midwifery unless also qualified to practise medicine and surgery. The Act in question was enacted for the prime purpose of preventing the injury to the public resulting from persons practising one of the three divisions of the triple qualification without any assured knowledge of either of the other two subjects. The Bill, by its Clause 2, proposes to re-establish the old and dangerous position.

Further, the clause makes it no part of the duty of the midwife to do more than attend at the time of the labour, and provides in no wise for the nursing and after-care of either the mother or the newly-born infant during the lying-in period.

The Bill proposes to establish a "Midwives' Register," and also a "Midwives' Board" for the "purpose of carrying out the provisions of the Bill." In the Bill of 1895 the term "Midwives' Board" was defined as "constituted for the purpose of carrying out the provisions of the Bill subject to the approval of the General Medical Council."

Clause 3 limits the use of the title "midwife" to women who are on the Register, attaches to the employment of that title by others a penalty not exceeding five pounds, directs that no woman shall be registered until she has complied with the rules and regulations to be laid down under the Act, and provides by Sub-section (4) that the certificate of her registration shall not confer any right or title to be registered under the *Medical Acts*, or to assume any name, title, or designation implying that she is by law recognised as a licentiate or practitioner in medicine or surgery, or that she is qualified to grant any medical certicate, or any certificate of the cause of death.

Certificates of stillbirth are not mentioned, neither is any fine or penalty specified for breaches of Sub-section (4).

This clause does not provide any means for preventing wholly ignorant and untrained women from practising midwifery, nor does it prevent such persons from recovering charges for their services.

Further, there is no provision in the clause to prevent a registered midwife from employing uneducated assistants and substitutes.

Clause 4 provides for the registration, on application made within two years from the passing of the Act, of any woman who at the time of its passing has been in *bond fide* practice as a midwife for a period of two years or who at that time holds a certificate in midwifery from the Royal College of Physicians of Ireland or the Obstetrical Society of London or such other certificate as may be approved by the Board. By this clause existing midwives of any kind may, without any evidence of character, claim registration as a right at any time during two years after the passing of the Bill. The unprecedented position of authority proposed to be conferred by this clause upon the unincorporated "Obstetrical Society" must also be noted. There is no provision in the Act for re-registration whether after change of address, change of name, or restoration to the Register after erasure.

Clause 5 provides that the Midwives' Board shall be "constituted by the General Medical Council," and that it shall consist of twelve registered medical practitioners, three to be appointed by the Royal College of Physicians of London, three by the Royal College of Surgeons of England, three by the Society of Apothecaries, three by the Incorporated Midwives' Institute, and of "six persons (not necessarily medical) to be appointed for terms of three years by the Lord President of the Council."

It is not easy to understand in what sense a Board so appointed can be said to be "constituted" by the General Medical Council, which is not given any voice in the selection of any of the members of the Board in question. The Council in 1895 recommended a Board of thirteen registered medical practitioners, twelve to be appointed by the four bodies mentioned above, with a chairman to be appointed by the Lord President. It will be observed that the Board proposed by the Bill would be more numerous, and therefore more costly, than that proposed by the Council, and that one-third of its members need not be registered medical practitioners and are constantly eligible for re-appointment, whereas the medical members are not.

The same clause provides that the Corporation members of the Midwives' Board shall be "appointed" by the respective bodies, and that the Crown members shall also be "appointed," but "for terms of three years"; and it afterwards provides that one-third of the "elected" members, no election having been mentioned, shall retire annually, but shall be eligible for re-election after the lapse of a year. The clause is not very intelligible, but it may, perhaps, be assumed that the word "elected" is intended to apply to the corporation members, and that the Crown members, unlike the "elected" ones, will be eligible for immediate reappointment on the expiration of their three years of office. It would further appear that the Crown members would all go out of office at the same time. However this may be, it is evident that the Board would be a body of fluctuating and uncertain composition; and it may be questioned whether the discretion to be reposed in it is not too large.

This clause of the Bill casts upon the proposed Midwives' Board the onus of arriving at decisions on nearly all the more difficult questions of principle which are likely to arise in connexion with its subject matter and places it under the control of the Medical Council with regard to some of these, but not with regard to others. Thus the Board is the sole authority for—

1. Making rules for regulating the conditions of admission to the Register of midwives other than those in *bond-fide* practice at the time of the passing of the Act and for the mode of conducting the qualifying examinations.
2. Appointing examiners.
3. Deciding upon the places where and the times when examinations shall be held.
4. Preparing and publishing annually a Register of Midwives.
5. Deciding upon the conditions under which a midwife may be suspended from practice.
6. Deciding upon the removal from the Register of the name of any midwife for disobeying the rules and regulations from time to time laid down by the Board, or for some other misconduct, and for deciding upon the restoration to the Register of any name so removed.

On the other hand, in framing rules for regulating the admission to the Register of women already in *bond-fide* practice as midwives at the passing of the Act, in framing rules for regulating, supervising, and restricting within due limits the practice of midwives, and generally in doing any other duty which may be necessary for the due and proper carrying out of the provisions of the Act, the resolutions of the Board are to be subject to the approval of the General Medical Council. While expressing its willingness to act in the supervisory manner thus proposed by the Bill the Council should again, as in 1895, point out that proposals which seek to impose upon it fresh statutory duties calculated to increase the number, duration, or expense of its sittings, unless provision for the necessary payment is made from some other source than the funds derived from the registration of medical and dental practitioners, are inequitable and contrary to the Acts under which the Council is appointed.

Clauses 6, 7, and 8 deal with questions of fees and expenses, of the appointment of a registrar, and of the provision, &c., of a Midwives' Register.

Clause 9 requires that any local sanitary authority in England and Wales shall appoint its medical officer of health or other medical practitioner or practitioners to be a local supervising body over the midwives in the district. The duties of this officer or officers would be numerous and some of them would be very onerous. They include the general supervision of a number—often large—of midwives, the investigation of any charges as to malpractice, negligence, or misconduct on their part that any one may choose to make; the keeping of a copy of the Midwives' Register for public inspection; the determination as to the validity of the claim of any midwife to be placed on the Register; and, under Clause 10, the reporting of the death of any midwife in the district.

No fee or remuneration is proposed for the performance of all these duties, the intention probably being that they should as a rule be thrown upon existing officers—namely, the medical officers of health, some 1600 in number, whether they assent or not. The duties are, however, almost without exception entirely foreign to those of a medical officer of health; they largely concern the well-being and comfort of individual women, whether parturient or midwives, and they tend to turn the health officer at one time into a detective, at another into a judge. Apart from the question of controlling the occurrence and spread of puerperal fever, these duties should not, in the opinion of the Committee, devolve on the health officer, who in nine cases out of ten is a busy practitioner.

A survey of the clauses thus summarised shows, as mentioned above, that whilst the Bill seeks to protect the title of "midwife" by the aid of a penalty it does not render illegal the attendance on natural labour for gain by women who are not registered, and consequently does not seriously afford any reasonable check to the evils which at present are causing much injury and suffering to lying-in women and children, and to remedy which the Bill has been brought forward.

General Considerations and Recommendations.

In considering the Bill referred to them your Committee have held in view the previous conclusions of the Council to the effect that it is most desirable that measures should be adopted to protect parturient women of the poorer classes from the grave risk which they now incur owing to the practices of midwives, many of whom are most ignorant and nearly all of whom carry on their work without any medical supervision. In this view they thoroughly concur; and having regard both to the provisions of the Bill as submitted to Parliament and to the serious omissions from it they submit that no measure should be considered as satisfactorily meeting the requirements of the case unless it contains provisions to the following effect:—

1. That the title of the Bill shall be a Bill to Promote the Better Training of Midwives and Midwifery Nurses and for the Compulsory Registration of them as such.
2. That the term "midwife" shall be defined as meaning a woman who undertakes to attend cases of natural labour and to tend as a nurse the mother and newly-born infant during the lying-in period.

The term "Midwives' Board" should be defined in the same words as in the Bill of 1895.

3. That it shall be the duty of the local sanitary authority of every district to appoint such registered medical practitioners as are willing to be so appointed, to whom midwives shall be required to apply for assistance and advice in all cases other than cases of natural labour, and under all circumstances which may be laid down by the Midwives' Board as calling for medical intervention. The local authority shall pay to every registered medical practitioner so consulted a sum of not less than one guinea and not more than two guineas; provided always that when the patient is able to pay for such medical services the local sanitary authority shall recover the fees for the same from the patient or other responsible person by ordinary process of law.
4. That no woman or any association of persons formed for the purpose shall either habitually or for gain attend, or undertake to attend, on a lying-in woman unless the person attending and all the members of any association providing such attendance, be registered according to the provisions of the Act.

5. That the certificate of registration shall not confer on any woman the right to sign a certificate of stillbirth or any medical certificate, and that a penalty be imposed under Clause 3 for the granting of certificates referred to in that clause.

6. That every woman registered under the Act shall annually register her name and address on the payment of a nominal fee on or before a day to be named by the Midwives' Board, and that provision for re-registration shall be made.

7. That no registered midwife shall employ as assistant or substitute any person who is not also herself registered.

8. That the privilege accorded to existing midwives to register under Clause 4 of the Bill be limited to one year from the passing of the Act; that by the same clause no evidence of *bonâ fide* practice or certificate in midwifery be accepted for the purposes of registration except as approved by the Midwifery Board; and that no woman be allowed to register without evidence being furnished to the Board that her character is satisfactory.

9. That the term "constituted," as applied to the Midwives' Board in Clause 5, be defined in the Bill.

10. That the Midwives' Board should consist of registered medical practitioners, four to be elected by the Royal College of Physicians of London, four by the Royal College of Surgeons of England, and four by the Apothecaries' Society of London, and of one chairman to be appointed by the Lord President of the Council; that a quorum be defined; and that all regulations framed by such Board shall be subject to the approval of the General Medical Council.

11. That since the duties proposed to be cast under the Bill on the General Medical Council could not be carried out unless a considerable portion of each sitting of the Council were devoted to that purpose, which would involve a large increase of expense, and since the funds of the Council consist solely of fees paid by medical practitioners for admission to the Medical Register in Scotland and Ireland as well as in England and Wales, such additional duties ought not to be imposed upon the Council unless a grant be made by the Treasury to meet the expenses involved.

12. That undue assumption of responsibility by registered midwives shall be specially provided against, and legal protection afforded to the public against malpraxis.

13. That provision should be made in the Bill to make it penal for any person or body of persons in the United Kingdom to grant, or to profess to grant, any certificate in midwifery, for the purposes of this Act, to any woman other than that provided for in any Act that may be passed.

14. That there should be statutory control and inspection of private lying-in homes.

15. That all penalties recovered under the Act be paid to the Treasurer of the Midwives' Board.

16. That this Act should be made to apply to Scotland and Ireland as well as to England and Wales, in which case the constitution of the Midwifery Board should be altered accordingly.

The report contained also the following notes:

Note by Mr. Carter.—I desire to place on record my dissent from many of the opinions expressed in the foregoing report, whether they are introduced into the portion said to be a "description" of the Bill or into the subsequent "considerations and recommendations."

R. BRUDENELL CARTER.

Note by Mr. Brown.—Whilst agreeing generally with the report signed by the Acting Chairman of the Committee, I desire to suggest further that the Privy Council be informed that in any Act of Parliament regulating midwifery practice by women it is desirable that the title or titles which a person registered under the Act may take or use shall be strictly defined, and that the title or titles should clearly indicate that the holder is to be regarded rather as a nurse than as an independent practitioner of midwifery. I would suggest the titles "Midwifery Nurse" and "Obstetric Nurse" as sufficiently distinctive of the calling of those women whose names are permitted to be placed on the Register, and no other title or description should be used by them. The use of such titles as Licentiate or Diplomate in Midwifery or Obstetrics should be strictly prohibited. GEORGE BROWN.

Dr. MACALISTER moved:—

That the Council now go into Committee of the whole Council for the purpose of considering the recommendations of the Committee.

Dr. BRUCE seconded the motion.

Dr. MCVAIL moved as an amendment:—

That instead of proceeding to consider the Midwives Registration Bill in Committee the Medical Council do agree to inform the Lord President of the Privy Council that the Medical Council is of opinion that the Bill should not be passed by Parliament, as the public safety requires that any person who is recognised by law as a practitioner in midwifery should have a knowledge of midwifery, medicine, and surgery not less than is at present required for admission to the medical registration which is open equally to men and women.

In supporting this proposal he said that the view he took of Dr. MacAlister's motion was that it was equivalent to a motion for the second reading of a Bill in the House of Commons and that if they went into committee it would mean that they approved of the leading principle of the bill. That principle was the creation of a new order of medical practitioners who were to act quite independently of the medical profession as a whole. It was quite true that their work was to be somewhat restricted, but how far restricted they did not quite know. In the present Bill labour was to be divided into two classes. It was true that the Bill did not name natural labour. The former Bill did, but the present Bill was in effect the same as the last, and it would be for the Council to consider what cases of midwifery could safely be attended by women and what cases could not. But whatever might be the rules adopted it would remain possible under this Bill for an ignorant woman to decide whether a case should go into one category or the other, when the most distinguished obstetricians could not say at an early stage that a particular case would be one of natural labour or not. Supposing in the end she made up her mind to send for a skilled practitioner, who was to come? There was no provision that it was to be a medical officer living in the district and no provision that the man called in was to get a fee. The Bill bristled with inconsistencies and answered no popular demand. If Parliament chose to pass it let them. Parliament had done some things which it was thought were wrong. It had abolished the Contagious Diseases Acts, with untold disaster to our soldiers and sailors; it had passed the Vivisection Act and so paralysed physiological and pathological and therapeutic research in this country; and it was shortly to in effect make vaccination voluntary with results which perhaps their descendants would find to be appalling. Who were the people who wanted the Bill? A handful of wealthy philanthropists, some members of a diploma-selling society in London, anti-vaccinators, anti-vivisectionists, anti-contagionists—in fact, all the anti-commonsense people of the country. But could they get any meeting of any Royal College in London, Dublin, or Edinburgh to say that the Bill was a Bill that should pass? The Council represented the whole profession and their duty was to tell the Lord President their opinion honestly. He was glad that he represented a part of the kingdom to which the Bill did not apply, and he would certainly resist its extension to Scotland. If England said that they would have it England might have it, but Scotland would not have it, and his closing advice to English members was that they should not have it either.

Sir CHRISTOPHER NIXON, in seconding the amendment, thought he was justified in saying for Ireland that that country was like Scotland and would not have the Bill. In the interests of the public rather than of the profession he thought the Bill should not be passed at all. He regarded the measure as a great source of danger to the public, whose interests the Council ought to regard as the paramount consideration. Was it to be supposed that mere registration would raise the moral tone of the women whom it was desired to reach by the Bill? If they approved of this measure they would be going distinctly against the Act of 1886, which required that all persons who practised midwifery should have a knowledge also of medicine and surgery, and be reversing their policy with regard to unqualified assistants, for they would be assisting to create a body of practitioners who would be used simply as unqualified assistants. He for his part would rather have unqualified medical assistants than midwifery assistants.

Mr. BRUDENELL CARTER suggested that the Council might quite fairly inform the Lord President of the Privy Council that there was no urgency whatever in regard to the question. Childbirth mortality was not on the increase. As a matter of fact, it had been for many years on the decrease. He did not for a moment think that the Bill would pass—for this reason, that it contained a provision to throw the expenses upon the rates, and that would excite such hostile feelings as would never be produced by mortality statistics. The Bill was bad in principle and he trusted it would never become the law or this country.

Mr. BROWN was of opinion that the Bill was wholly bad. There was not a clause in it which could possibly meet the evils complained of. He suggested that the Council should condemn the Bill *in toto*.

Sir PHILIP SMYLY said that the Royal College of Surgeons in Ireland had adopted the same resolution against the Bill as the Royal College of Physicians of Ireland.

Sir WILLIAM GAIRDNER doubted whether the amendment if adopted would not have the very opposite effect intended by the mover, for if the Council took such a strong position as the amendment invited them to do he was afraid they would be confronted with their own previous resolution on the subject, which was to the effect that they regretted the absence of proper provision and urged upon the Government the desirability of passing into law some measure for the education, supervision, and registration of midwives. He quite believed that Dr. McVail and Mr. Brown were willing to see the extinction of the midwife altogether. But he was quite sure that if they expected to see the midwife extinguished they were too sanguine. She had existed from antediluvian days and sprang from

a primary need of society and human nature. Of course, it was a different thing to have the midwife springing up as a social institution and being taken up by the State and coddled into a false position. They were asked to contribute their share to organise midwives into a separate profession for medicine. That was his objection. He did not think they could give midwives all the rights and privileges, though in a minor degree, which they claimed for the profession itself.

Dr. ATTHILL, who said that he had always been against the registration of midwives, felt objections to the Bill as it stood, but he thought they must not refuse to consider the measure. Long ago he had said that they were beginning at the wrong end. Instead of saying that they should qualify they should have said and say now that they should educate.

Dr. MACALISTER said that the Council at this special session were gathered together to consider the Bill. If they refused to do so it would stultify them and give an uncourteous answer to the Lord President of the Privy Council.

Dr. MCVAIL protested that there was not the slightest discourtesy, but asked leave to amend his proposal by prefixing words to show that instead of intending discourtesy to the Privy Council it was his opinion that adequate preliminary precautions had been taken before his proposal was voted upon.

After a short adjournment for tea,

Dr. MCVAIL said that with the consent of his seconder he would withdraw his proposal for the present.

Dr. GLOVER thought the Council should not agree to the proposed withdrawal.

Leave, however, was given, and after the President's remark that the amendment would go on the minutes the motion to go into committee on the recommendations of the committee on the Bill was unanimously agreed to.

On the motion of Dr. MACALISTER, seconded by Mr. TEALE, it was agreed:—

That the title of the Bill shall be—A Bill to Promote the Training of Women as Midwives and to Provide for the Regulation of their Practice.

A recommendation to insert into the title after the word *midwives* the words *and midwifery nurses* was withdrawn.

The PRESIDENT suggested in the case of the next recommendation that meantime it would be better to leave over that part of it providing that a midwife should tend as a nurse the mother and newly-born infant during the lying-in period, and that discussion, if any, should be taken on the first part of the recommendation—namely, "that the term midwife shall be defined as meaning a woman who undertakes to attend cases of natural labour."

This led to a debate upon the meaning of the words "natural labour" and "midwife" and the necessary amount of supervision which should be exercised by the medical man, in the middle of which the Council adjourned.

Medical News.

THE VICTORIA UNIVERSITY.—In the Faculty of Medicine the following candidates have passed in the subjects indicated:—

SECOND EXAMINATION.

A. Anatomy and Physiology.—Granville Ainsworth and Arthur Anderson, Owens College; E. W. Anderton, Yorkshire College; J. T. Bailey and A. D. Beckett, Owens College; Philip Benington, University College; A. T. Bleasc, Owens College; J. E. Bolton and Henry Brown, Yorkshire College; P. I. Caddow, University College; A. C. Clarke, Owens College; Robert Cook, University College; E. R. Cooper, Owens College; J. L. Dimond, University College; T. H. B. Dobson, Owens College; W. F. Ellis, Yorkshire College; D. J. Ferris, Mercier Gamble, J. P. Good, Reginald Gordon, F. G. Hack, and C. R. Hall, Owens College; F. W. Harrowell, Yorkshire College; A. R. Jackson, L. C. Johnson, and R. E. Kelly, University College; Reginald Lawrence, C. H. Lee, and James McIlraith, Owens College; *J. C. Mann, University College; A. F. Martin and P. A. H. Radcliffe, Yorkshire College; H. W. Russell, Owens College; J. H. Sutcliffe, Yorkshire College; Thomas Tierney, Owens College; C. R. Willans, Yorkshire College; and T. B. Williams, W. J. Woodyatt, and W. A. B. Young, Owens College.

B. Materia Medica and Pharmacy.—J. L. Beddoes, W. H. Broad, and P. I. Caddow, University College; B. H. Hirst, Yorkshire College; A. S. Hopper, University College; W. C. Johnson, R. S. Nichol, C. A. Ricketts, F. M. Rogers, and C. W. S. Saberton, Owens College; Edward Swales, University College; George Taylor, R. N. West, H. M. Williamson, and P. G. Williamson, Owens College.

FINAL EXAMINATION.

Part I.—J. W. Aldred and F. H. Allen, Owens College; Godfrey Carter, Yorkshire College; Willie Cunliffe, Owens College; C. A. Dixon and Harry Dunk, Yorkshire College; J. T. Grierson, University College; I. Walker Hall, Owens College; W. S. Henderson and J. E. W. McFall, University College; R. A. Needham, Owens College; W. F. Oyston and J. A. Reed, Yorkshire College; C. R. Schofield, Owens College; W. A. Stott, Yorkshire College; and W. H. Tattersall and William Thompson, Owens College.

Part II.—William Bradley, W. J. S. Bythell, ‡H. J. Crompton, Herbert Davies, and †Robert Kelsall, Owens College; H. A. Mawdsley, University College; W. T. Melling and John Milne, Owens College; S. C. Moore, University College; and †D. S. Wylie, Owens College.

* University Scholar in Medicine.
† Awarded First-class Honours. ‡ Awarded Second-class Honours.

UNIVERSITY OF ABERDEEN.—The following candidates have passed in the subjects indicated:—

Degree of Doctor of Science (D.Sc.).—Alexander Brown, M.A., B.Sc., M.B., C.M., Aberdeen.

Degree of Doctor of Medicine (M.D.).—William Gordon Grant, M.B. C.M., Salterhill, Elgin; William Cardiff Hossack, M.B., C.M., Poona, India; *Robert Gordon McKerron, M.A., M.B., C.M., Aberdeen; *John MacLeod Hendrie MacLeod, M.A., M.B., C.M., Dundee; Peter Mitchell, M.B., C.M., Johannesburg, South African Republic; James Robertson Reid, M.B., C.M., Birkdale, Southport, Lancs; Cecil Robertson, M.B., C.M., Southfields, London, S.W.; George Taylor, M.B., C.M., London; Charles Thiselton Dyer Urquhart, M.B., C.M., Aberdeen; and *James Stratton Warrack, M.A., M.B., C.M., Burnley, Lancs.

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) (Old Ordinances).—William Cartwright, Blackburn; William Cromar, Aberdeen; Ernest St. Clair Henriques, Jamaica, West Indies; William Mitchell Ogilvie, Aberdeen; John Smith Purdy, Morpeth, Northumberland; Robert Samuel Trotter, Perth; and Edward Wood Wood-Mason, Calcutta.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) (New Ordinances).—Henry Adams, M.A., Aberdeen; Alexander Chalmers, Aberdeen; James Stephen Chapman, Bridgend, Auchterless, Aberdeenshire; William Scott Clark, Leitchfield, Ardersier, Inverness-shire; James McRae Cowie, Haremoss, Monquhitter, by Turriff; William Deane Manson Donald, Banff; John Ebenezer Esslemont, Aberdeen; †Thomas Fraser, M.A., Aberdeen; William Kensit Glover, Aberdeen; William Kimslie Henderson, M.A., Aberdeen; David John Kelly, Hill-head, Petty, Fort George; James McKay, Aberdeen; David Roger Moir, Aberdeen; †William Ironside Moir, Aberdeen; George Mowat, Mains of Barrack, Auchnagatt, Aberdeenshire; George Ford Petrie, Aberdeen; John Moir Petrie, Aberdeen; †Frederick Philip, Aberdeen; Theodore Francis Ritchie, Inverurie; George Joseph Saunders, London; David Sivewright, M.A., Strichen, Aberdeenshire, Charles Cameron Slorach, Huntly; Joseph Alexander Thomson, B.Sc., Cullen; Alexander Urquhart, M.A., F.C., Old Meldrum; Edward Bruce Wilson, Huntley; and Andrew Watson Cook Young, Chapel of Garioch, Pitcaple.

* Thesis considered worthy of "commendation."
† Passed final examination "with credit."

THE ROYAL AQUARIUM.—Included in the Easter attractions at this place of entertainment is a lecture illustrated by lantern views entitled "A Trip to Klondike." To those who intend to visit this new gold region some practical hints are offered, while to the general public the exhibition will prove of educational value. A statement was made by the lecturer to the effect that at Klondike when the thermometer registered 40° below zero he felt the cold less than he has in Yorkshire when the temperature has been only 3° below the freezing point.

THE REGISTRATION OF PLUMBERS.—At a public meeting held at the town-hall, Durham, the following resolution was carried unanimously: "That this annual general meeting of the North of England District Council for the National Registration of Plumbers is of opinion that an organised and efficient system of registration of qualified plumbers is essential to the protection and preservation of the health of the community, and records its approval of legislative sanction being given to the registration movement and its desire that the Members of Parliament in the district will support the Bill now before the House of Commons."

A PRIZE COMPETITION.—The *Maryland Medical Journal* of Feb. 26th states that the second quinquennial prize of $1000, under the will of Samuel D. Gross, will be awarded on Jan. 1st, 1900. The prize is to be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages 8vo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens. The successful competitor shall publish his essay in book form and deposit a copy in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. All interested in further information should apply to Dr. J. Ewing Mears, 1429, Walnut-street, Philadelphia, Pennsylvania.

PRESENTATIONS TO MEDICAL MEN. — Mr. William Roxburgh, M.B. Glasg., of Troon, Ayrshire, was presented at a social meeting, held on March 25th, by the first ambulance class in connexion with the Ailsa Shipbuilding Yard, with a valuable drawing-room timepiece in appreciation of his services as tutor to the class.—Mr. Edward H. Binney, M.B. Syd., who has for several years held the position of medical superintendent of the Sydney Hospital, Sydney, New South Wales, and who has been succeeded by Mr. W. C. McClelland, M.B. Syd., has been entertained at the hospital by the members of the medical staff, employés, and friends, and presented on the occasion with an oak roller-top desk, and also with an onyx-block, the gift of the matron and nursing staff.—An honorarium of £25 has been presented to Mr. James A. Dick, M.D. Edin., M.B. Syd., the honorary visiting medical officer of the Randwick Asylum, by the directors of the Society for the Relief of Destitute Children, Randwick, New South Wales.

DIPHTHERIA IN LONDON.—In the four weeks ended on March 26th there was considerable diminution in the amount of diphtheria in London, as compared with the same period of time ended Feb. 26th. In the earlier period the total number of notified cases of the disease in London was 939, but the total of the March period was only 813, so that the weekly average of 235 notifications in February gave place to 203 last month. Then, again, in the February period four districts had upwards of 50 cases each, amounting to an aggregate of 299, but only two districts had such excess of cases in the March period, and 140 cases in all. All sanitary districts of London save one were invaded in the latter period, but in six of the invaded areas only 14 cases were heard of altogether. The 166 registered deaths of the earlier period (41 weekly) gave place to 160 in March (40 weekly), but the per case mortality in March, which was 19·7 per cent. of notifications, was high in comparison with the 17·7 per cent. of the February period. In the outer ring of the metropolis the registered deaths declined in even larger proportion than in London itself. In the February period the weekly numbers of deaths were 15, 22, 18, and 23, or 78 in all, and in the March period 22, 19, 10, and 16, or a total of 67 deaths.

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, MARCH 28TH.

Imported Dairy Produce.

SIR MARK STEWART asked the President of the Local Government Board if he was aware that large quantities of dairy produce were imported from countries where sanitary regulations might be said not to exist and what precautions the Government were taking to protect consumers against peril to health from diseased foreign produce.—Mr. T. W. Russell, who replied to the question, said: There is no doubt that dairy produce is imported from countries where there are not the same regulations in force as to dairies and cowsheds as in England, but I am not aware that large quantities of dairy produce are imported from countries where sanitary regulations do not exist. The precautions which are provided for the protection of consumers against peril to health from diseased foreign produce are the same as those in the case of home produce. Medical officers of health and inspectors of nuisances throughout the country are empowered to examine any animal, carcase, meat, flesh, milk, and a number of other articles which are deposited for sale and to seize any such articles which appear to be diseased or unsound or unwholesome or unfit for food with a view to the same being dealt with by a justice and the justice is empowered to order the same to be destroyed or otherwise disposed of so as to prevent its being used for food. A penalty not exceeding £20 or at the discretion of the justice imprisonment for a term of not more than three months may be imposed in such cases.

THURSDAY, MARCH 31ST.

The Payment of Public Vaccinators.

Mr. M'Kenna asked the President of the Local Government Board, in view of the proposal in the Vaccination Bill that domiciliary visits shall be made by the public vaccinators, whether it was proposed to make additional provisions for the payment of public vaccinators, and more particularly in the case of those acting in country districts, on account of the long distances which must necessarily be traversed.—Mr. Chaplin replied: I have no doubt that some revision in respect of the fees now payable for stational vaccination will be required when the system of domiciliary vaccination has been adopted.—Mr. Thomas Bayley asked whether the increased cost would be borne by imperial or local taxation.—Mr. Chaplin: It will be borne as now.—Mr. Bayley: That is out of local taxation.

Vaccination in Scotland.

Mr. Crombie asked the Lord Advocate whether glycerinated calf-lymph was generally used by public vaccinators in Scotland; and whether, as he did not contemplate any alteration of the law at present, he could take other means to enforce its use.—The Lord Advocate replied: I am informed by the Local Government Board for Scotland that they have no means of ascertaining exactly the quantity of glycerinated calf-lymph used by public vaccinators in Scotland, but, as I have already stated in reply to a question put to me by the hon. member for the West Division of Aberdeenshire (Dr. Farquharson), the provision of a supply of glycerinated calf-lymph to Scotland will be considered in connexion with the arrangements which, I understand, are now being considered by the English Local Government Board.

Treatment of Habitual Inebriates.

The Home Secretary, in reply to Mr. Knowles, said that he hoped to introduce the measure with regard to the treatment of habitual inebriates on a very early day after the Easter holidays.

FRIDAY, APRIL 1ST.

The Supply of Vaccine.

Captain Greville asked the President of the Local Government Board whether he was aware that Dr. Reece, a medical inspector under the Local Government Board, while making an official inspection in Middlesborough and Darlington during March, recommended local authorities and others to use the glycerinated calf vaccine prepared by a particular private firm; whether Dr. Reece and all other inspectors were officially authorised to advocate by name the interests of a private firm; whether it was consistent with the regulations of the Local Government Board that officials should use their position as a means of pushing the sale of the goods of any particular firm; whether the matter had already been previously brought to the knowledge of the Local Government Board; and whether prompt steps would be taken to check the practice complained of.—Mr. Chaplin replied: I am informed by Dr. Reece that he has not either in Middlesborough or Darlington recommended local authorities and others to use the glycerinated calf lymph prepared by any particular firm, but on one occasion when conferring with a board of guardians who required immediately a large supply of lymph he was pressed to state the name of some firm to whom a telegram could at once be sent and he mentioned the only firm whose telegraphic address he happened to know. The inspectors of the Department are not officially authorised to advocate by name the interests of private firms and so far as I am aware there has been no instance where an official of the Department has used his position as a means of pushing the sale of the goods of any particular firm. I had received a communication on the subject previously to the notice of this question, but as there has been no such practice as that suggested no steps on my part were necessary.

Medical Officers of Volunteer Corps.

Mr. Brodrick (Under-Secretary of State for War) said, in reply to a question by Sir Howard Vincent, that an army order is about to be issued giving the initial outfit allowance to medical officers on the establishment of volunteer corps.

Dog Muzzling Order.

Some discussion took place at the sitting with regard to this dog muzzling order. Several members took exception to sheep dogs not being allowed, like sporting dogs, to go unmuzzled. Mr. Walter Long, in supporting the present state of things, said that as the result of extensive inquiries he found that no great inconvenience was caused through sheepdogs being muzzled, and that to extend the exemption to them would mean the giving up of the Order altogether. Rather than do this he preferred to face the unpopularity of enforcing the Order. In the quarter ended March 31st, 1896, there were over 200 cases of rabies in the country; in the next quarter, 123; in the next, 67; in the next, 48; and in the quarter just ended the total number of actual cases reported had fallen to 6. In addition there were 3 suspected cases. The policy adopted was one founded on vast experience and the Board of Agriculture were determined to adhere to it, believing that it would result in eradicating rabies.

MONDAY, APRIL 4TH.

Nusseerabad Mission Hospital.

Mr. James Stuart asked the Secretary of State for India whether he was aware that the United Presbyterian Missionary Society had for twenty-five years rented a Government building at Nusseerabad as a mission hospital; whether the new regulations in reference to venereal disease amongst the troops in India were recently sent to Dr. Huntly, who was in charge of the hospital, and was asked if the mission would carry out the rules; whether Dr. Huntly replied that the mission hospital had been treating all natives, including women, affected with the disease in question, and was prepared to continue such treatment, but that any examination of women for a purpose similar to that of the Contagious Diseases Act was out of the question; and whether shortly afterwards six months' notice was served that the Government would take away this building from the mission, and whether he proposed to take any action in the matter.—Lord George Hamilton replied: I have not received any report upon this subject, but if the hon. gentleman will be good enough to furnish me with the information on which he bases his question I will make inquiry.

River Pollution.

Sir John Brunner asked the Lord Advocate whether he would introduce or favourably regard the introduction of a Bill to empower the Scottish County Councils immediately north of the border to act with the English County Councils immediately south of the border for the purpose of the formation of joint committees for the prevention of the pollution of rivers.—The Lord Advocate replied that the Government could not undertake the introduction of such a measure, but the Secretary for Scotland would be favourably disposed to the introduction of such a Bill as the hon. Member seemed to contemplate if its terms were suitably arranged.

Prison Diet.

Mr. Davitt asked the Home Secretary whether the dietary scale in the convict prisons of England and Wales for penal

servitude prisoners at hard labour had been increased in recent years, and if so could he state to what extent in ounces of bread or meat, or both, in the week; whether penal class diet had been increased and if so to what extent; and whether punishment diet was still restricted to sixteen ounces of bread per day and a pint of water.—Sir M. White Ridley replied that the diet per week had been increased by a pint of soup containing 4 oz. of pork, 4 oz. of peas, and some other ingredients. There was no such thing as a penal class diet. The diets for ill-conducted and idle convicts would be found in the draft rules: No. 1 diet was as stated by the hon. Member, but could not be given for more than three days at a time.

The Analysis of Foreign Milk.

Mr. Jeffreys asked the President of the Local Government Board if he could state whether the foreign fresh milk imported into this country was inspected at the port of entry for the purpose of analysis; if so, how many samples had been taken; whether any information had reached him of illness arising from the use of this milk; and whether there was any sanitary inspection of the dairies where this milk was produced similar to that which was enforced in this country.—Mr. T. W. Russell, replying for Mr. Chaplin, said: There is no system of inspection for the purpose of analysis such as that suggested, but I am informed that some samples of milk imported from France were taken for analysis in the months of December and January last at the request of the Board of Agriculture. I have not received information as to illness arising from the use of this milk. I am not in a position to state what are the arrangements for the sanitary inspection of dairies in the different countries from which milk is received in this country; but I believe that information bearing on this question has been collected by the Royal Commission on Tuberculosis and this will no doubt be published in connexion with their report.

Prisons Bill.

At this sitting the House agreed to the second reading of the Prisons Bill and referred the measure to the Grand Committee on Law. During the debate that took place the Home Secretary announced that he had looked into the question of the No. 1 diet and taken some medical evidence with regard to it and he had come to the conclusion that some improvement might with advantage be made. As to the other prison diet he said he was not averse to making it the subject of inquiry, though at the present moment he had no direct evidence to substantiate the grave charges made in this connexion. On the subject of corporal punishment the Home Secretary said that in view of the character of a large proportion of our prison population it was necessary to retain the power to administer it. This power, however, was only exercised in case of mutiny or incitement to mutiny, personal violence to an officer or servant of the prison, or an act of gross insubordination requiring to be repressed by extraordinary measures.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York.
Transactions of the Nineteenth Annual Meeting of the American Laryngological Association. May, 1897. 1898.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Respiratory Exercises in the Treatment of Disease. By Harry Campbell, M.D., B.S. Lond. 1898. Price 7s. 6d.
The Latin Grammar of Pharmacy. By Joseph Ince, F.C.S., F.L.S., F.G.S. Seventh Edition. 1898.

BERTON AND CO., Fetter-lane, London, E.C.
Professions for Boys and How to Enter Them. By M. L. Pechell. With a Preface by the Rev. J. E. C. Welldon. 1898. Price 2s. 6d.

BLAKISTON, P., SON AND CO., Philadelphia.
Retinoscopy (or Shadow Test). By James Thorington, M.D. Second Edition. Illustrated. 1898.
Syringomyelia. An Essay to which was awarded the Alvarenga Prize of the College of Physicians of Philadelphia for the Year 1895. 1897.

CHURCHILL, J. & A., Great Marlborough-street, London.
A Manual of General Pathology. By Walter S. Lazarus Barlow, M.D., M.R.C.P. 1898. Price 21s.

COCCOX, ALEXANDRE, Paris.
Dix Leçons de Bactériologie Chirurgicale. Par Dr. Villemin. Août-Septembre, 1897. 1898.

FISCHER, GUSTAV, Jena.
Die Technik der speziellen Therapie. Von Dr. F. Gumprecht. 1898.
Handbuch der Therapie innerer Krankheiten. Von Dr. F. Penzoldt und Dr. R. Stintzing. Neunte und zehnte Lieferungen. 1898.

JENKINS, W. R., New York.
Veterinary Obstetrics. By W. H. Dalrymple, M.R.C.V.S.

KIMPTON, HENRY, High Holborn, London.
A Practical Treatise on Sexual Disorders of the Male and Female. By R. W. Taylor, A.M., M.D. Illustrated. 1897. Price 12s. net.
A System of Practical Medicine. By American Authors. Edited by A. L. Loomis, M.D., LL.D., and W. G. Thompson, M.D. Vol. iii.: Diseases of Alimentary Canal, &c. 1898. Price 25s. net.

LEWIS, H. K., Gower-street, London, W.C.
Inflammation of the Bladder and Urinary Fever. By C. M. Moullin, M.D. Oxon., F.R.C.S. 1898. Price 5s.
Yellow Fever in the West Indies. By J. Anderson, M.D. Edin. 1898. Price 3s. 6d.

LIBRAIRIE MALOINE, Place de l'Ecole de Médecine, Paris, et Bureau de la *Gazette des Eaux*, Paris.
Annuaire des Eaux Minérales. Quarantième Année. 1898.

LIPPINCOTT, J. B., COMPANY, London and Philadelphia.
Mammalian Anatomy: A Preparation for Human and Comparative Anatomy. By H. Jayne, M.D., Ph.D. Part I: The Skeleton of the Cat: Its Muscular Attachments, Growth, and Variations, compared with the Skeleton of Man. Illustrated. 1893. Price 21s. net.
Therapeutics of Infancy and Childhood. By A. Jacobi, M.D. Second Edition. 1898. Price 15s. net.

LONG, JOHN, Chandos-street, Strand, London.
Trewinnot of Guy's. A Novel. By Mrs. C. Kernahan. 1898. Price 6s.

LONGMANS, GREEN AND CO., Paternoster-row, London.
The Diseases of the Lungs. By J. K. Fowler, M.A., M.D., F.R.C.P., and R. J. Godlee, M.S., F.R.C.S. Illustrated. 1898. Price 25s.

MARLBOROUGH, E., AND CO., Old Bailey, London.
Egyptian (Arabic) Self-Taught. With English Phonetic Pronunciation. Second Edition. By C. A. Thimm, F.R.G.S. 1898. Price 2s.

PEARSON, C. A., Henrietta-street, London, W.C.
The Isobel Handbooks. No. 4. A Healthy Home and How to Attain It. By Dr. Andrew Wilson. Edited by "Isobel" of *Home Notes*. With Index. 1898. Price 1s.

SMITH, ELDER, and Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. liv. Stanhope-Stovin. 1898.

THE BEHMAN PUBLISHING COMPANY, Adam-street, Strand, London.
The American Year-book of Medicine and Surgery, 1898. Edited by G. M. Gould, M.D. Illustrated. Price 38s.
Archives of the Roentgen Ray. February, 1898. Vol. ii. No. 3. Edited by W. S. Hedley, M.D., and S. Rowland, M.A., M.R.C.S. 1898. Price 4s. net.

THE SHIPPING WORLD COMPANY, Arundel-street, Strand, London.
Sanitation in the British Mercantile Marine. By Wm. G. Romeril. Illustrated. 1898. Price 3s. 6d.

WHITAKER AND CO., White Hart-street. Paternoster-square, London.
Radiography and the X Rays. By S. R. Bottone. Illustrated. 1898. Price 3s.

The United Temperance Gazette, the quarterly parts for 1897 and for the March quarter, 1898. (The Ideal Publishing Union, Paternoster-row, London).—Cassell's Time Tables: First issue of enlarged and improved series. April issue, 1898, price 4d. (Cassell and Company, La Belle Sauvage, Ludgate-hill, London.—Magazines, &c., for April: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian, The Navy and Army, Wellington and Waterloo, Ladies' Field, Wide World Magazine, and St. Peter's Magazine.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ATTFIELD, D. H., M.B., B.C. Cantab., D.P.H., has been appointed Medical Officer by the Watford Urban District Council, vice R. A. St. Leger.

BAYS, JAMES T., M.D. Lond., M.R.C.S., has been appointed Medical Officer of Health for the City of Grahamstown, Cape Colony.

BEVAN, R., L.R.C.P. Lond., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health by the Ashford, Kent, Urban District Council.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health for Chepstow.

BROWN, H. R., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Maldon Urban District Council.

BURDWOOD, J. W., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Bourne Rural District Council.

CLARKE, J. P., M.B., B.Ch. Irel., has been appointed Medical Officer for the Middlesbrough Workhouse, vice G. Longbotham, resigned.

COLE, RICHARD MOUNT, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Consulting Surgeon to the Gloucester General Infirmary.

COLLINGRIDGE, W., M.D., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health by the London Port Sanitary Authority.

CUMMINS, LILLIAN CUNARD, L.R.C.P. & S. Irel., has been appointed Assistant Medical Officer to the Lincoln Lunatic Hospital.

DRINKWATER, JAMES PRATCHETT, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Llangollen Rural District Council.

ELLISTON, G. S., M.R.C.S., has been re-appointed Medical Officer of Health by the Bosmere Guardians and District Council.

FULLER, J., F.R.C.S. Edin., M.R.C.P. Irel., has been appointed Medical Officer of Health by the Long Ashton Rural District Council.

HALL, C. R., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer for the Third Sanitary District of the Hatfield Union.

HAMMOND, WILLIAM, L.R.C.P. Edin., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Sixth Sanitary District of the Liskeard Union.

HARE, A. W., M.B., B.Ch. Aberd., has been appointed Junior House Surgeon to the Borough Hospital, Birkenhead.

JONES, J. A., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Aberavon Town Council.

JOYCE, J. H., M.B., B.C. Cantab., has been appointed Medical Officer for the No. 2 Sanitary District of the Ashby-de-la Zouch Union.

KENNINGTON, E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 8 Sanitary District of the Basingstoke Union.

KNOX, R. G., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Hospital, Weston-super-Mare.

LEWIS, J. K., M.R.C.S., has been appointed Medical Officer for the Rewe Sanitary District, by the Devon St. Thomas Guardians and Rural Council.

LIMRICK, W. S., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Waterloo District Council.

LOGAN, R. R. W., M.R.C.S., has been appointed Medical Officer for the No. 3 Sanitary District of the Ashby-de-la-Zouch Union.

MACKENZIE, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Raunds Urban Sanitary District.

MOXON, WM., M.D. Durh., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Matlock Urban District Council.

ROBINSON, A. S., B.A., M.B., B.C. Cantab., L.S.A. Lond., has been appointed Medical Officer and Public Vaccinator to the Kirkleatham District of the Guisborough Union.

SADLER, M. T., M.D. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Barnsley District Council.

SAUNDERS, A. M., M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer of Health for the Burgh of Burghead, Morayshire.

SMITH, T. H., L.R.C.P., L.R.C.S. Edin., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Redruth Urban District Council.

SOUTHEY, A. J., M.R.C.S., has been re-appointed Medical Officer of Health by the Eton Urban District Council.

TURNER, C. R., F.R.C.S. Eng., has been appointed Surgeon to St. George's Hospital, London.

WASHBOURN, WILLIAM, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the General Infirmary, Gloucester, and the Gloucestershire Eye Institution.

WEBB, JOHN EUSTACE, M.B., C.M. Aberd., has been re-appointed Medical Officer for the Fourth Sanitary District of the Liskeard Union.

WYNNE, W., M.B., Ch.M. Edin., has been appointed Medical Officer for the No. 2 Sanitary District of the Rye Union, vice H. Harratt, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident Assistant House Surgeon. Board, lodging, and washing in the Hospital provided.

BURY INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and attendance.

CAMBERWELL HOUSE, Peckham-road, S.E.—Junior Assistant Medical Officer, unmarried. Salary commencing at £120, with board, lodging and washing. Applications to the Medical Superintendent.

CHESTER GENERAL INFIRMARY.—Assistant House Surgeon for one year. Salary £40 per annum, with residence and maintenance in the house.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, with prospect of increase to £250, with furnished apartments, board, attendance, and washing.

DURHAM COUNTY HOSPITAL, 16, South Bailey, Durham.—House Surgeon for one year. Salary £100 a year, with board and lodging.

FLINTSHIRE DISPENSARY.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free, also coal, light, water, and cleaning, or in lieu thereof the sum of £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell.

GENERAL HOSPITAL, Nottingham.—House Surgeon for two years. Salary £100, rising £10 a year to £120.

GENERAL INFIRMARY, Gloucester, and GLOUCESTERSHIRE EYE INSTITUTION, Gloucester.—Assistant Surgeon.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, increasing to £125 after twelve months' service, with furnished apartments, board, washing, and attendance.

KING'S COLLEGE, London.—The Sambrook Medical Registrarship. Applications (from King's College students only) to be made to the secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer for one year. Salary 100 guineas per annum, with board, lodging, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

PLYMOUTH ROYAL EYE INFIRMARY.—Honorary Physician.

RONSAY PARISH COUNCIL, Orkney.—Resident Medical Officer. Salary £51 sterling per annum. Applications to the Clerk of the Parish Council, Ronsay, Orkney.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer for two years, unmarried. Salary £100 per annum, with board and lodging.

ROYAL FREE HOSPITAL, Gray's-inn-road, London, W.C.—House Physician for six months. Board, &c., provided.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, and 15, Hanover-square, London.—House Surgeon and Anæsthetist for twelve months. Salary £100 per annum, with board and residence.

SCARBOROUGH HOSPITAL.—Senior and Junior Resident House Surgeons. The former for twelve months. Salary £80 per annum, with board and lodging, and the latter for six months. Salary at the rate of £50 per annum, with board and lodging.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

ST. SAVIOUR'S UNION, London.—Dispenser at the Northern Dispensary, 302, Borough High-street, S.E. Salary at the rate of £70 per annum, with furnished apartments, and 12s. weekly in lieu of rations, subject to statutory deductions. Applications to the Clerk, John-street West, Blackfriars-road, S.E.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon (to act as Secretary). Salary £60, with board and lodging.

YORK DISPENSARY.—Resident Medical Officer to visit and attend sick poor at their own homes, unmarried. Salary £150 a year, with furnished apartments, coals, and gas. Applications to W. Draper, Esq., De Grey House, York.

Births, Marriages, and Deaths.

BIRTHS.

DALISON.—On March 30th, at Ilsington Lawn, Puddleton, Dorset, the wife of Bernard E. Dalison, M.B., C.M. Edin., of a son.

FLEMING.—On Monday, April 4th, at 10, Chester-street, Edinburgh, the wife of Robert A. Fleming, M.D., F.R.C.P.E., of a son.

GORDON.—On March 25th, at Lower Baggot-street, Dublin, the wife of T. E. Gordon, M.B., F.R.C.S. Irel., of a daughter.

JOSCELYNE.—On April 3rd, at The Homestead, Southwick, Sussex, the wife of E. W. Joscelyne, M.B., of a daughter.

PATRICK.—On March 27th, at Stoneygate, Leicester, the wife of James Williamson Patrick, L.R.C.S., L.R.C.P., of a son.

WAINEWRIGHT.—On April 2nd, at Lee-terrace, Blackheath, S.E., the wife of Robert Spencer Wainewright, M.D. Lond., of a daughter.

MARRIAGE.

GAMLEN—MITCHELL.—On March 31st, at West Hartlepool, Durham, Harold Ernest Gamlen, M.B., B.S., D.P.H., third son of T. Hornsey Gamlen, of Hartlepool, to Mary, youngest daughter of P. Mitchell, of West Hartlepool.

DEATHS.

COTTERELL.—On April 5th, at West Halkin-street, Belgrave-square, S.W., Edward Cotterell, F.R.C.S., aged 41 years.

GRIFFITH.—On March 21st, Caroline, the beloved wife of Samuel Clewin Griffith, Esq., M.D., Master of the Society of Apothecaries of London.

HELM.—On March 31st, at Marazion, Cornwall, suddenly, George Frederick Helm, M.D., F.R.C.S., in his 61st year.

VINE.—On March 8th, off Cape Town, Herbert Vine, M.B., C.M. Edin., aged 33 years, Surgeon British India s.s. *Avoca*.

WILLIAMS.—On April 2nd, at Wellesley-villas, Croydon, Cecil Henry John Williams, L.D.S. R.C.S.I., aged 37 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

"UP-TO-DATE THERAPEUTICS."

A DISTINGUISHED physician sends us the circular of the editors of the *Alkaloidal Clinic* of Chicago—W. F. Waugh, M.D., literary editor; and W. C. Abbott, M.D., managing editor—announcing the gift of the nine-vial case of alkaloids thrown in with the *Clinic*, all to be had in continuity for $1 per year. Our valued correspondent seems slightly ruffled at being so canvassed for his patronage of the *Clinic* and being told that it contains a contribution from a friend of his. He need not, however, be greatly perturbed. The delivery of such gifts and overtures and alkaloids is now almost as much a business of the postman as the delivery of letters and threatens to destroy the old simplicity of medical practice. But surely regular members of the medical profession might leave this business in alkaloids to the manufacturing druggists.

LONDON DRAINS.

To the Editors of THE LANCET.

SIRS,—On all sides one hears of the great amount of measles and other illnesses about. I refer to London. I think I can give a reason, and that is that in London our drains are insufficiently and ineffectually flushed. Probably a good storm of rain or two would give these a good cleansing, but how long its beneficial effect would remain is another question. At present our sewers are not flushed on the top and only partially on the sides, while the force of water is insufficient to wash off the accumulations which render them dangers to health. This washing can be done thoroughly by using but one-tenth of the water now recklessly poured down our drains without flushing force. There is only one way to do it and the sooner the local authorities take it to heart the better. A valued and skilled surveyor (I refer to the late Mr. Walker, of St. Martin's parish, I believe) stated this repeatedly: "The most efficient flushing is by either a fixed or temporary pipe placed in the sewers and connected to the street water force, thus washing with such power that every part of the drain is effectually cleansed." Mr. Walker's opinion was that the dry and unwashed upper parts of the drains were more disease-spreading than any other. If one wants to put out a fire in a building one would not pour water on the floor, but would attack the burning mass with jets of water. Drain fever germs want the same treatment. When this is given, and not till then, will be cut away the root of disease germs so freely spread in the atmosphere through vent-holes and ventilators. Many borough and district surveyors would be glad to see more efficient means of drain flushing provided, and many local authorities would like to expend funds in the adoption of the new system, but public opinion requires to be educated in the matter.

I am, Sirs, yours faithfully,

Greenwich-road, S.E., March 24th, 1898. J. C. MERRYWEATHER.

*** Mr. J. C. Merryweather's remarks as to the importance of thoroughly flushing all drains and sewers point to an object most desirable of attainment. Any means by which stagnation and consequent fermentation of the contents of the sewers may be prevented would certainly assist in improving the general health. His suggestion would seem to apply only to sewers large enough for the passage of a man with a hose. It has, however, been proved that the air emanating from drains and sewers is not charged with micro-organisms to the extent to which it is commonly credited. Examinations of such air have shown the number of bacteria present to be extremely small—except in cases where fermentation is active or the flow of sewage much disturbed. This is owing to the moisture which is always present in sewer air and which when condensed upon the walls causes any bacteria present to adhere, consequently their frequent flushing would be an undoubted gain. External air is always more free from bacteria immediately after rainfall, while at the same time the number present in pools of water is found to have increased. Undoubtedly there is a tendency to an increase of certain forms of sickness in large towns during long-continued dry weather. This probably arises, not only from stagnation in the sewers, &c., but from the free escape of sewer air through the street gullies and yard traps of private drains, the water in which either evaporates or having become stagnant and saturated with gases allows the free passage of sewer air. The importance of keeping all yard gullies re-charged cannot be too much insisted upon; indeed, every yard gully should be made to receive the waste pipe from some sink in constant use in addition to rain-water. Everyone knows that sewer and drain air by depriving the lungs of oxygen lowers the vital powers and predisposes those exposed to its influence to the attacks of disease apart from the actual presence of any specific organism which might accompany it.—ED. L.

UNFORTUNATELY-WORDED ADVERTISEMENTS.

A CERTAIN town on the south coast has recently in common with many others been in the throes of an election for county councillors. One of the candidates was a medical man whose virtues were set forth upon a handbill in a way not consistent with professional etiquette—that is to say, for a man in practice. The local paper also contains an advertisement of the St. John Ambulance Brigade Branch, of which the medical man in question is the honorary medical officer. His name is given with the other officers and the staff of the branch and at the end of the advertisement is an intimation that in cases of accident any of the above are to be sent for. This advertisement, or rather the last two lines, should be altered. We should say that in case of accident the proper person to send for is the nearest medical man.

LAY NOMENCLATURE OF DISEASES.

To the Editors of THE LANCET.

SIRS,—A young medical man upon entering into private practice should understand that some of his patients may know considerably more of the healing art than himself and the sooner he assimilates this fact the better he will get on. In the hope of helping him to understand the unintelligible language he will occasionally hear from them I enclose a list of cases treated at a cottage hospital during the past year which has been printed and circulated amongst its subscribers. This list was composed by the lay committee of the hospital, though it is headed "Medical Returns of cases treated." In addition to such misprints as "cerebal," "incisid," "gastic," and "periostetis," you will observe some remarkable points in it. "Urethral carbuncle" must surely be a terrible disorder, but if you will read "caruncle" for "carbuncle" perhaps you will have less pity for the patient. "Libia," which occurs twice, sounds like a geographical term, but the student should understand that it represents "tibia" to the lay mind. "Gluteal senius" might be supposed to be identical with "glateal sinus," which is found a few lines lower, but that the medical officer in charge of the latter case entered it in the hospital case-book as "pelvic cellulitis" (possibly the committee examined this female themselves and were kind enough to spare their officer's feelings by quietly correcting his diagnosis). "Onkylosis" of left elbow is not described in any of the text-books, nor is "vinicious andemia," which seems to convey the suggestion of intemperance on the part of the patient which is incorrect seeing that according to the case-book the woman was suffering from "pernicious anæmia." "Gastulis" also and "Tuterculer abscess" are diseases not described by lecturers at hospitals, to whom I would suggest that occasional remarks on the lay nomenclature of diseases might be useful to their students. I am, Sirs, yours faithfully,

March 30th, 1898. J. J.

THE LIGHT SIDE OF MEDICINE.

UNDER the above heading Mr. Norman Porritt, in the *Phonographic Record*, tells some good stories dealing with the ludicrous side of medical practice. A friend had attended at a difficult labour until 5 A.M. Creeping wearily to bed he was soon dreaming of that happy land where patients do not trouble and the night-bell is at rest when a loud ring awakened him. Popping his head out of window he saw the husband of the patient whom he had left but an hour ago. "Well, is anything wrong?" he asked. "No," said the man; "I had to pass on my way to my work and I thought I would just tell you she were all right." Gratitude in this case was not a virtue. The other story is told at the expense of a patient. An enema had been ordered with an ounce of turpentine in it. The medical man

was assured by a female good Samaritan who was in the house that she knew quite well how to administer an enema, and as the apparatus was produced the medical man left without any misgivings. "Well," he said, on his next visit, "did you have the enema?" "Yes," said the patient, "but it *was* a business and it did taste nasty." The enema had been given with the apparatus but by way of the patient's throat.

AN OBSTINATE CASE OF HERPES.

To the Editors of THE LANCET.

SIRS,—I have a patient at present under treatment who has suffered for years from herpes præputialis of a very troublesome character, which seems to me to be incurable. The ailment recurs regularly about every month and lately the prepuce (which is well behind the glans) has become thickened somewhat and during his recent attack there was much œdema below the frænum, which I evacuated by means of the hypodermic syringe. The man is beyond the middle age, married, is practically a teetotaler, leads an active outdoor life, and has always been a healthy man in every sense of the word. He has not had syphilis or gout. His "thorn in the flesh," so to speak, worries him beyond measure and considerably interferes with his occupation — when an attack is "on" — and ruffles his temper too. The usual remedies have been persevered with: lotio plumbi c. cocaine, ung. hydr. nit. and "pasma" acid. boric., pulv. amyli and zinci oxid., have been adopted as "dusting powders," all of which *benefit* him, but they do no more. If any professional brother would kindly suggest what further should be done either as a prophylactic or as a curative remedy I should feel much obliged.—I am, Sirs, yours faithfully,

High-street, Putney, April 2nd, 1898. J. FRENCH BLAKE.

THE CONTROL OF VOMITING AFTER ANÆSTHESIA.

DR. J. TORRANCE PUGH, of Philadelphia, states in the *Philadelphia Polyclinic* that he has used inhalations of vinegar in about twenty-five cases for the purpose of controlling nausea and vomiting after anæsthesia both in private and in hospital practice. The method of administration is by saturating a towel or cloth with fresh, strong vinegar (preferably that made from cider) and holding it a few inches above the patient's face, or hanging it from the bedstead so that it will be near his head. It should be used directly after the anæsthetic has been discontinued and kept up continuously for hours.

HEROIC TREATMENT.

THE following interesting account of "bone-setting" by the natives of the Congo River appears in the new magazine *The Wide World*. It would appear that the local white doctor could not get a fractured leg to unite, the patient being a most intractable one, but the difficulty was surmounted by one of the patient's fellow tribesmen in the following way. He was laid on the ground on his back and under his head was placed a box. The broken leg was then stretched straight out and covered with a little hillock of soft clay. This clay, being pressed hard down upon the leg and a fire kindled upon it, was practically turned into brick. The patient was kept in this position for over five weeks, being fed during the time by two attendants. The result is said to have been perfectly satisfactory.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—Our client, Mr. Adrian Hope, the secretary of the Hospital or Sick Children, Great Ormond-street, wishes us to write to you and state that he and his wife, Mrs. Adrian Hope, the artist, have no connexion whatever with the lady who gave evidence at the inquest on the late Mrs. Uzielli. We shall be greatly obliged if you will kindly publish this letter. Yours faithfully,

Lincoln's-inn-fields, London, W.C., April 5th, 1898. HASTIES.

THE ORIGIN OF "TRILBY."

IN an interesting little paper in the *St. Peter's Magazine*, a new Roman Catholic publication, for April, written by Mr. A. W. à Beckett, the assistant editor of *Punch*, reference is made to the original of Du Maurier's celebrated novel "Trilby." Mr. à Beckett says that the central idea of the hypnotic influence exercised by Svengali was founded on a case reported in THE LANCET some forty or fifty years ago. "No less a person than the famous Jenny Lind was able to cause a factory girl without any musical education to sing like a sister nightingale," says Mr. à Beckett.

Constant Subscriber (St. Austell).—A School Board is obliged to notify the closure of a school at other times than those of the regular holidays to the Education Department. This being so, it is only fair that the Board should be given a certificate to say that the school was closed for good reasons and thus avoid the loss of the grant. We do not think there are any legal rights in the matter.

Mr. Edward S. Cardell.—Ordinary medical books of reference are supplied to all applicants. No discretion as to age is necessary because all authorised readers are of age. Books of the class called "curious" are not supplied to anyone, medical or lay, without a sufficient reason being given for the application.

K. D. Y.—The degree is no longer granted. It is not, and never was, registrable in Great Britain.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (16th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (13th). — HUNTERIAN SOCIETY.—8.30 P.M. Clinical Evening. Cases will be shown by Sir Hugh Beevor, Dr. F. J. Smith, Dr. J. H. Sequeira, Mr. J. Adams, Dr. A. Davies, and others. LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. S. Spicer, Dr. J. Horne, Dr. H. Tilley, Dr. St. C. Thomson, Dr. Hill, Mr. Yearsley, and Mr. Lake.

THURSDAY (14th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussions:—On Dr. Newman's Demonstration on the Bacteriology of the Female Genital Organs.—On Dr. W. Alexander's paper on the Enucleation of Uterine Myomata. Paper:—Dr. F. Purcell: The Risks to the Ureters in Performing Hysterectomy.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

WEDNESDAY (13th).—EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr A. H. Tubby: Swellings in the Groin, their Diagnosis and Treatment. (Post-Graduate Course.)

FRIDAY (15th).—LONDON POST-GRADUATE COURSE.—King's College 5 to 5 P.M., Prof. Crookshank: Tetanus, Rabies, and Cholera.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 6th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 31	29·70	E.	...	81	51	39	42	44	Fine
April 1	29·91	N.E.	...	73	52	34	35	36	Foggy
" 2	29·80	N.	...	84	56	36	41	43	Cloudy
" 3	29·82	S.W.	...	95	59	43	47	52	Fine
" 4	29·81	W.	0·05	93	55	46	46	48	Cloudy
" 5	30·17	N.E.	...	71	51	37	38	41	Cloudy
" 6	30·12	S.W.	...	95	60	38	42	45	Fine

During the week marked copies of the following newspapers have been received: *Cornubian Times, Bucks Herald, Western Mail, Bradford Telegraph, Cornish Times, Western Morning News, Newcastle Weekly Chronicle, Kettering Guardian, Wolverhampton Chronicle, Luton Reporter, Times of India, Pioneer Mail, Chester Chronicle, Derbyshire Times, Wiltshire Advertiser, Liverpool Daily Post, Scotsman, Architect, Southampton Times, Builder, Bath Chronicle, Bristol Mercury, Dundee Advertiser, Glasgow Herald, Leeds Mercury, Leicester Post, Sussex Daily News, Worcester Echo, Birmingham Gazette, North British Daily Mail, Manchester Courier, Sheffield Telegraph, West Lothian Courier, Yorkshire Post, Middlesboro Evening Telegraph, Brighton Gazette, Louth and North Lincolnshire Advertiser, City Press, Local Government Chronicle, North-Eastern Daily Gazette, Mining Journal, Reading Mercury, Hertfordshire Mercury, Poole, Parkstone, and East Dorset Herald, Weekly Free Press and Aberdeen Herald, Surrey Advertiser, Local Government Journal, Public Health, Guy's Hospital Gazette, Western Guardian, Ulverston Advertiser, Bromsgrove Messenger, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. Armour and Co., Lond.; Anglo-Swiss Condensed Milk Co., Lond.; Autographic Co., Middlesbrough; Apothecaries' Hall, Dublin, Secretary of; Messrs. Arnold and Sons, Lond.

B.—Mr. H. H. Beale, Reading; Mr. G. H. Broadbent, Ardwick; Dr. R. L. Bowles, Lond.; Mr. T. Bolas, Lond.; Mr. J. T. Barrett, Lewisham; Mr. A. B. Brooke-Hunt, Slough; *Birmingham Daily Post*; Birmingham General Hospital, House Governor of; Bradford Children's Hospital, Secretary of; Surgeon F. Bolster, H.M.S. *Victory*, Portsmouth; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.

C.—Mr. L. Cobbett, Cambridge; Cortland Wagon Co., Lond.; Dr. Harry Campbell, Lond.; C. B. L., Lond.; Mr. R. Cuffe, Woodhall Spa; A Constant Subscriber, Lond.; Dr. C. J. Cullingworth, Lond.; Mr. R. A. Clarke, Teddington; Dr. A. Cook, Cardiff; Mr. F. W. Collingwood, Lond.; Chester General Infirmary, Secretary of.

D.—Mr. J. P. Drinkwater, Llangollen; Dr. A. T. Davies, Lond.; Down District Asylum, Medical Superintendent of; Mr. C. A. Doran, Rochdale; Messrs. Dowie and Marshall, Lond.; Mons. E. Doumer, Lille; Derbyshire Royal Infirmary, Secretary of.

E.—Mr. T. S. Ellis, Gloucester; Edinburgh University, Registrar of.

F.—Messrs. Ferris and Co., Bristol; Flintshire Dispensary, Secretary of; Mr. J. Ffrench-Blake, Putney.

G.—Dr. F. W. Gunn, Widdrington; Mr. G. P. Gaskell, Lond.; Gloucester General Infirmary, Secretary of.

H.—Mr. W. Hay, Hull; Mrs. Harley, Lond.; Mr. J. Heywood, Manchester; Dr. G. Herschell, Lond.; Mr. J. C. C. Hogan, Dublin; Mr. C. Heneage, Lond.; Dr. J. Hunter, Leicester; Dr. T. Harris, Manchester; Mr. J. Harris, Leighton Buzzard.

J.—Messrs. Jones Bros., Clifton.

K.—Mr. C. R. B. Keetley, Lond.

L.—Mr. J. Lowrie, Lond.; Lady Longmore, Lond.; Mr. G. W. Little, Dublin; Dr. J. F. Little, Lond.

M.—Mr. P. Metz, Birmingham; Dr. H. Macnaughton-Jones, Lond.; Meddyg, Lond.; Dr. H. MacDonnell, Dundalk; M. O. H., Lond.; Mr. C. Martin, Birmingham; Dr. W. R. Miller, Trevear.

N.—Dr. A. Newsholme, Brighton; National Telephone Co., Lond.; Messrs. Neyroud and Son, Lond.; Mr. H. Needes, Lond.

O.—Mr. F. Orchard, Lord.; Dr. T. Orme Dudfield, Lond.

P.—Mr. F. Piggott, Cambridge; Plymouth Royal Eye Infirmary, Secretary of; Mr. F. Pott, Bournemouth; Dr. J. B. Pettigrew, Newark; Dr. A. S. Percival, Newcastle-on-Tyne; Plymouth Medical Society, Secretary of; Plumbers' Co., Lond.

R.—Dr. H. D. Rolleston, Lond.; Royal Institute of Public Health, Lond., Secretary of; Revolution Cycle Co., Dublin, Secretary of; Royal Halifax Infirmary, Secretary of; Mr. J. Morgan Richards, Lond.; Dr. A. R. Reynolds, Chicago; Messrs. Reynolds and Branson, Leeds; Mr. R. Redpath, Newcastle-on-Tyne; Royal Albert Hospital, Devonport, Secretary of; Royal College of Surgeons, Lond., Secretary of; Royal College of Surgeons of Ireland, Registrar of.

S.—Mr. T. Smith, Lond.; Messrs. Stubbs, Lond.; Messrs. Street and Co., Lond.; Messrs. W. H. Smith and Son, Manchester; Sovran Card Co., Lond.; Messrs. J. P. Segg and Co., Lond.; Dr. Heywood Smith, Lond.; Dr. L. R. Sutherland, Glasgow; Sociedad Propagandista del Clima Embellecimiento de Málaga; St. George's Hospital Medical School, Lond., Dean of; St. Andrew's University, Registrar of; Dr. R. G. Schröder, Alkmaar, Holland; Scarborough Hospital, Secretary of; Messrs. Street Bros., Lond.; Statim, Lond.; Mr. G. C. Searle, Brixham.

T.—Dr. A. Tischler, Bielitz; Dr. A. G. A. Thomson, Millbrook; Toddington Orchard Co., Winchcombe; Mr. W. Turner, Poole.

U.—University College of South Wales, Monmouth, Secretary of.

W.—Mr. G. H. Wade, Chiselhurst; Wills, Ltd., Lond.; Dr. G. B. M. White, Lond.; Mr. T. M. Watt, Burbage; Dr. J. T. Wise, Montreux; Warneford Asylum, Oxford Medical Superintendent of.

Z.—Zomëla Co., Birmingham Messrs. A. and M. Zimmerman, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. W. J. Allkin, Denton; Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.

B.—Dr. B. W. Bond, Biskra, Algeria; Brin's Oxygen Co., Lond.; Beano, Lond.; Messrs. F. B. Benger and Co., Manchester; Mr. Bennett, Lond.; Mr. C. A. G. Browne, Lond.; Mr. H. Burland, Finedon; Mr. B. S. Browne, Saxlingham; Mr. R. H. Browne, Lond.

C.—Dr. W. S. Carroll, Pontypridd; Cornwall Works Medical Association, Smethwick, Secretary of; Messrs. Crossley, Moir, and Co., Lond.; Church Stretton Private Asylum, Medical Superintendent of; Mr. D. J. Carroll, Ballynattin; Country, Lond.; Mr. J. Carter, Lond.; Dr. W. S. Carroll, Pontypridd.

D.—Mr. W. Denton-Johns, Winton; Dr. A. S. Dick, Glasgow; Messrs. W. Dawson and Sons, Lond.; Durham County Hospital, Secretary of; Mr. M. G. Davies, Penygroes; Mr. L. C. Dillon, Bracebridge; Mr. R. C. Davys, Llandovery.

F.—Mr. A. E. Fuller, Chichester; F. M. L., Lond.; Fuller's, Ltd., Lond.; Mr. A. C. Farrington, Shelfanger; Messrs. Fletcher, Fletcher, and Co., Lond.; Facilis, Lond.; Mr. R. Favell, Sheffield.

G.—Dr. A. Gardner, Kirbymoorside.

H.—Mr. C. H. Harding, Whittlesea; Dr. W. Hutchinson, Widnes; Messrs. Hooper and Co., Lond.; Hamilton Association, Lond., Secretary of; Mr. T. Harling, Gunnerside; H. C., Bootle.

J.—Mr. G. H. Jones, Deddington; Messrs. Jacob and Johnson, Winchester.

K.—Messrs. Keith and Co., Edinburgh; K., Lond.

L.—Mr. A. Leishman, Weymouth; Mrs. Laycock, Plymouth; Mr. J. Lockhart, Knaresborough.

M.—Mr. J. Milne, Ladywell; M., St. Leonards-on-Sea; Mountjoy Brewery, Dublin; Malo, Lond.; Dr. J. McNaught, Waterfoot; Mental Nurses' Coöperation, Secretary of; Medicus, Lond.; M. O. W., Lond.; M.D., Bradford; Medicus, Liverpool.

N.—Mr. W. Nettle, Liskeard.

O.—Dr. O'Neill, Lincoln.

P.—Mr. J. B. Phillips, Hoxne; Dr. W. H. Price, Newbridge; Peritus, Lond.; Mr. J. H. Peet, Preston Candover; Paddington Green Children's Hospital, Lond., Matron of.

Q.—Quatuor, Lond.

R.—Mr. W. M. Riley, Hereford; Rochdale Infirmary, Secretary of; Mr. N. Robson, Glasgow; R. M., Lond.; Dr. A. Robinson, Rotherham; Mr. A. Rainford, Criccieth.

S.—Mr. W. F. Saunders, Chieveley; Swanage Urban District Council, Secretary of; Mrs. Skinner, Winchelsea; Staffs General Infirmary, Secretary of; Miss K. Stanley, Halstead; Spero, Lond.; Scapula, Lond.; S., Lond.

T.—Mr. S. Thrower, Lond.; Dr. M. Takayasu, Breslau; Teignmouth Hospital, Secretary of.

V.—V., Lond.

W.—Mr. J. Ward, Lond.; W. D., Liverpool; Mr. J. F. Walker, Swallowfield.

X.—X. Y. Z., Lond.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "The Lancet General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in The Lancet.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. Charles Good, The Lancet Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

The Lancet can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.